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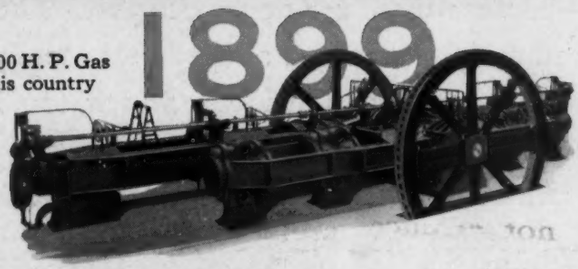

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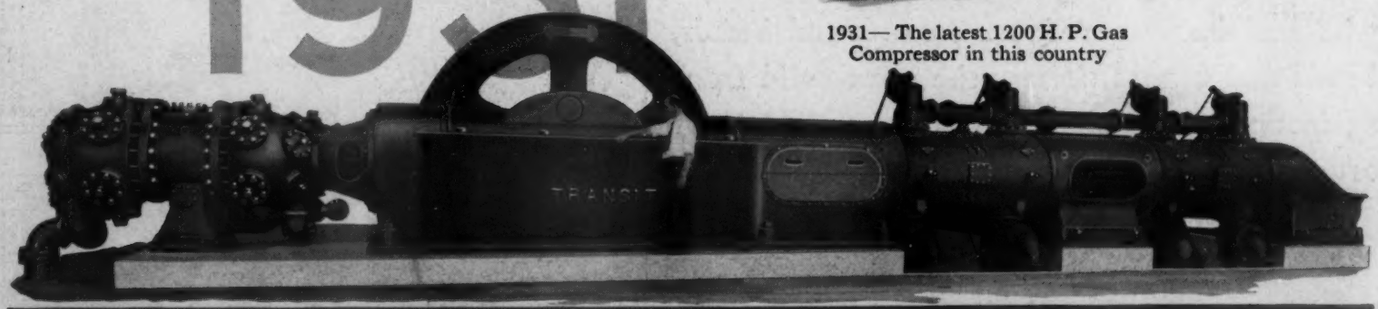

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Sterling's Stand Reassures Oil Industry

Highest production in 1930, week ending Feb. 22, average daily output 2,699,096 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Stabilization Dependent on Definite Production Figure for East Texas Regardless of Number of Wells Completed

By Andrew M. Rowley

Lowest daily average crude oil production in the United States during 1930 was for week ending Dec. 27 with average output of 2,144,074 bbls.

Governor Sterling's refusal to accept and permit enforcement of the order prepared by the Railroad Commission of Texas allowing production of 225 bbls. per well in East Texas and unlimited drilling on the basis of one well to each 20-acre tract, with exceptions for smaller tracts, assured the petroleum industry a real effort is being made to prevent wasteful and excessive production from East Texas. It is estimated that the order, as prepared, would have resulted in a production of nearly 400,000 bbls. a day from East Texas at the start with a rapidly mounting output as additional wells would be drilled and completed.

The industry is hopeful some plan may be evolved which will hold production in East Texas to a predetermined limit regardless of the number of wells completed. Under such a plan stabilization would be assured as the industry then could approximate fairly accurately what crude oil production for the nation as a whole would total. The demand has been estimated. The crude and refined oil price structures will depend on maintenance of a balance between supply and demand.

Without any new discoveries or additional production from any of the areas, crude oil requirements of the United States for the balance of this year will be met almost exactly if East Texas is held to not more than 400,000 bbls. daily for the rest of the year and Oklahoma's production is kept within the present allowable of 550,000 bbls. daily. This statement is based on the belief all major buyers would post a price of at least $1 a barrel for Oklahoma crude as soon as they were certain East Texas would not produce more than 400,000 bbls. daily during the remainder of this year. The price of $1 a barrel by all major buyers in Oklahoma will result in the opening of all fields of the State and the lifting of martial law.

Governor Sterling is to be congratulated on the firm stand he has taken. As has been said so many times, stabilization of the industry depends almost entirely on production in East Texas being limited to a figure which will prevent dumping crude oil on the market regardless of price.

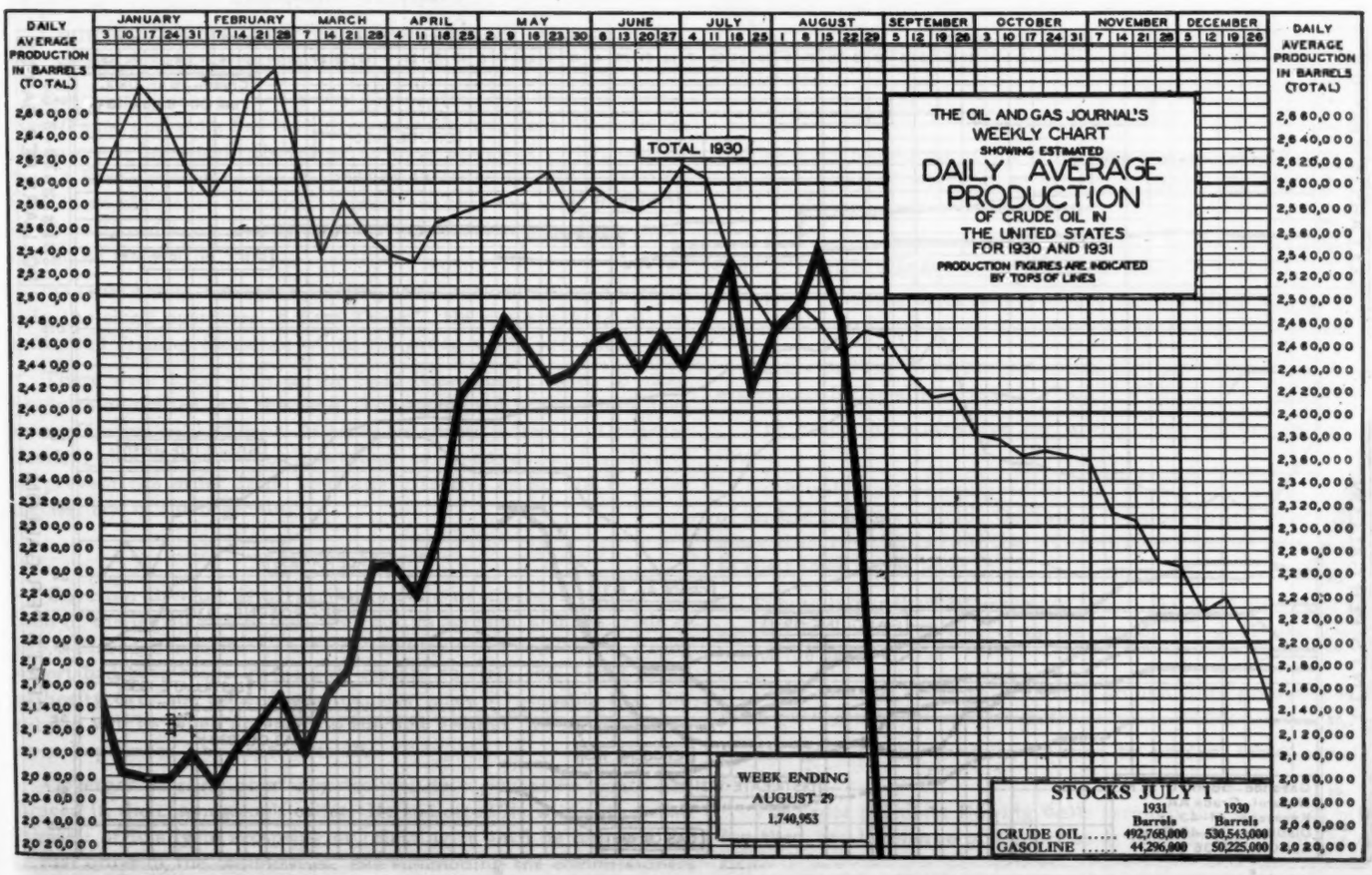
PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for week ended August 29 and a comparison with the previous week follows:

	Aug. 29	Aug. 22
Oklahoma—		
Oklahoma City	7,535	9,430
Seminole-St. Louis	58,520	57,710
Remainder of State	199,360	202,290
Total Oklahoma	265,415	269,430
East Texas—		
Kilgore	(*)	203,600
Lathrop	(*)	164,286
Joiner	(*)	147,339
Total East Texas	.....	515,225
West Texas	206,762	204,572
North Central Texas	74,833	76,471
Texas Panhandle	59,068	57,820
East Central Texas	53,938	51,545
North Louisiana	29,650	29,735
Arkansas	37,290	37,440
Kansas	99,315	104,205
Total Mid-Continent area	826,271	1,346,443
Gulf Coast	146,684	157,352
Southwest Texas	64,566	63,058
Eastern	107,000	107,000
Rocky Mountain area	92,432	89,742
California—		
Santa Fe Springs	61,250	62,500
Long Beach	77,500	77,500
Playa Del Rey	22,000	22,500
Elwood	26,250	26,250
Kettleman Hills	62,000	70,500
Remainder of State	255,000	255,750
Total California	504,000	515,000
Total United States	1,740,953	2,278,595

*Fields shut down.

→ **Decrease, 537,642 Bbls. Daily** ←



Refinery Market Awaits Developments

With Some Form of Proration in East Texas Likely at an Early Date, Expect Improved Price Levels to Be Maintained

By W. T. Ziegenhain

Believing that East Texas refiners will soon be able to obtain crude as a result of the Texas Railroad Commission agreeing upon an allowable production in the East Texas Field, regardless of what counter action might be brought as a result of it suggesting too high a figure, the Oklahoma refiners are more willing to entertain price inquiries, particularly in those cases where orders might develop for gasoline and fuel oil. As the week opened, gasoline quotations covered a wider range, having yielded in price to the reports that some Oklahoma gasoline was being offered on the tracks in the Chicago territory one-half cent below the current quotations of the larger refiners here. The natural gasoline market also lacked the brisk trading that has characterized it during the past month and which helped to lead the refinery market to its present position. Fuel oil moved in larger volumes and in many cases the shipping dates were advanced, indicating that the shortage of fuel oil in the East Texas area was having its effect in the industrial fuel market. In most cases the industries buying East Texas fuel had purchased on the spot market and took only a part of their needs from this source and protected themselves during the uncertainty of the turn of events in East Texas by placing substantial orders in the Oklahoma and Kansas territories. Lubricating oils, particularly bright stocks, were firm and prices were fractionally higher. Wax also shared in the improvement in the market for the heavier products.

Effect of East Texas

The fact that the allowable production in East Texas has been agreed upon by the commission as 225 bbls. per well and action is pending to force the commission to establish a still lower figure, the Oklahoma refinery market has been relieved of the uncertainty regarding production there. Although most Oklahoma refiners consider this allowable as much too high to permit prices to go above their present level, they feel assured that because East Texas is definitely under control that refinery prices can be maintained at or near their present level until some new factor presents itself.

These refiners also realize that with East Texas under proration, crude prices in that area will not reach the absurdly low figure at which East Texas, Chicago and Gulf Coast refiners were able to buy crude. Similarly, if crude prices are maintained in East Texas it will not be possible to manufacture gasoline and offer it at anything like the 2 to 3-cent price range existing in the Mid-Continent over May, June and July.

Summarizing the attitude of Oklahoma refiners regarding the East Texas allowable, it might be said that upon the receipt of the Texas commission's order they were disappointed because they had hoped for the 250,000-bbl. maximum. On second thought, however, they realized that with East Texas able to produce more than 1,000,000 bbls. a day, the turn of events for the week has been decidedly constructive.

Gasoline

The larger refiners adhered to the 5 to 5¼-cent quotation on the 58-60 U. S. Motor grade of gasoline throughout the week despite the fact lower quotations were given by a few jobbers on material shipped into the Chicago area for re-consignment. A price of 4½ cents was quoted on this but the quantity was not sufficient to warrant this figure being taken as the low of the published price range. The gasolines of higher gravity and low

(Continued on Page 101)

REFINED MARKET BAROMETER

In general, developments over the past week have been reviewed as constructive and favor the slow recovery to a normal price level for refinery products. Although no definite order was issued for the prorating of East Texas the maximum of 225 bbls. per well as agreed upon by the Railroad Commission was considered as low enough to permit the present level of refined oil prices to be maintained in the Mid-Continent. Another favorable factor was the advance of one-half cent posted on the third grade of gasoline at all stations of the Standard Oil Co. of Indiana on Tuesday. Gasoline prices were slightly higher in all refining areas outside of the Mid-Continent. Natural gasoline advanced fractionally in California but prices tended to weaken in the Mid-Continent as the week opened. Fuel oils were more actively traded in all areas but without showing price advances. Lubricants, particularly bright stocks, were traded at prices above the past week's level. Wax also shared in the improved heavy oil market.

Atlantic Seaboard—The improved retail conditions along the Atlantic Coast has aided the refinery gasoline market materially. Fuel oils remain unchanged but show promise of higher prices.

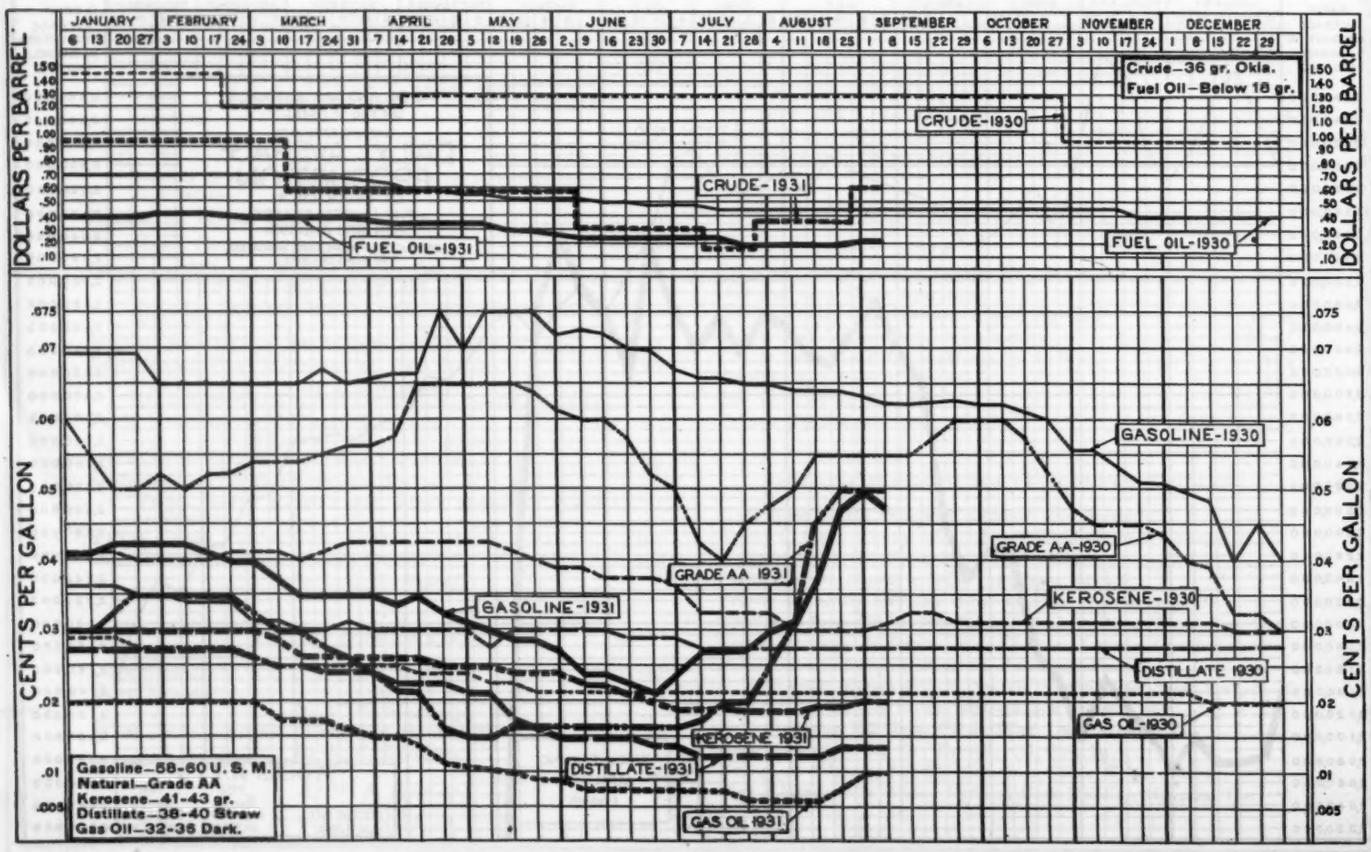
Mid-Continent—Gasoline prices weakened as a result of the uncertainty of the East Texas situation, kerosene and distillate prices remained unchanged with a slight improvement shown in the gas oil and fuel oil markets. Bright stocks and cylinder stocks were generally traded at prices from one-half to 1 cent above those of last week.

Chicago—The uncertainty of the turn of events in East Texas caused a few marketers to offer gasoline at prices slightly under the general quotations, that gasoline having been purchased at 3 to 3½ cents earlier in the month. The fuel oil market has strengthened but prices have not been revised.

Gulf Coast—Refiners have not changed their prices over the past week. Important export inquiries have been made for gasoline and this market has been holding firm.

California—The price range on gasoline has been narrowed with the tone of the general market firm. Large quantities of gasoline have been shipped to the East Coast and this has made less material available for the spot market. Fuel oils and lubricating oils are slightly improved.

Pennsylvania—Gasoline prices and cylinder stock prices were advanced.



Sterling Disapproves East Texas Order

Opposes Plan of Railroad Commission as Permitting Unlimited Drilling. New Order to Be Drafted While Militia Stays

By Special Correspondent

AUSTIN, Tex., Sept. 1.—Chairman C. V. Terrell of the Railroad Commission announced late this afternoon the commission will not have its East Texas oil conservation order prepared before Wednesday.

AUSTIN, Tex., Sept. 1.—Gov. Ross S. Sterling issued orders to military authorities in the East Texas oil field today, he announced, to keep all wells shut down until he issued further instructions.

This announcement was made after the Railroad Commission had drawn a tentative order which its chairman, C. V. Terrell, said was to have been signed and made effective immediately today, granting an allowable production of 225 bbls. daily per well in the field, and permitting unlimited drilling of wells on a 20-acre basis.

Governor Sterling called Chairman Terrell and Lon A. Smith, the majority members of the commission, into his office for a two-hour conference. Fred Upchurch, assistant attorney general, also was there. Governor Sterling later disclosed that he had dissented from the form of the tentative order, and his action indicated that he would not permit the order to be made operative, if signed in that form. Governor Sterling then called Commissioner Pat M. Neff, minority member of the Railroad Commission, into a separate conference.

Later Commissioners Terrell and Smith were closeted in consideration of a new form of order, but withheld comment as to its basis or allowable production.

Commission Undecided

Chairman Terrell said he "didn't know what the commission will do," under the new circumstances.

Governor Sterling, in a press conference, said that numerous East Texas operators had sent protests to him against the order as proposed to be issued. He has at no time promised to lift martial law in East Texas upon the issuance of an order, Governor Sterling replied to claims of commission members that the civil authority of the railroad body was to supplant martial law when the order should be issued.

"On that basis," Governor Sterling said, "the order would utterly ruin the small operators in East Texas." He was speaking of the unlimited drilling campaign which the order would provoke.

There were 1,760 wells in the field September 1, with 10 more ready to be drilled into the sand. The attempted order would have been effective only 30 days. If an order unsatisfactory to Governor Sterling should result when it is redrafted, he has as much authority to prevent the order from becoming effective as he did to order martial law in the beginning.

Special Session

Governor Sterling is preparing to convene a second special session of the legislature to deal with cotton acreage, and the crisis in the Railroad Commission's affairs Tuesday. The fact that a strong effort had been made in the past session to strip this board of all authority over the oil and gas industry made it probable that the subject will be taken up again in the new session. The session will open September 7 or September 10.

Governor Sterling pointedly declined to say what he wants embraced in the commission's order. He indicated he will not commit himself officially to accepting or rejecting it until he has seen the actual order of the commission. His summoning the commissioners to his office was unexpected. The majority faction had chided newspaper reports that the commission had consulted the governor about the enforcement of the order, saying no conference had been held or would be sought by the commission.

Oil men waiting anxiously about the capitol for the order became convinced that Governor Sterling will retain martial law in the East Texas Field for a considerable time yet, though he may modify it to permit production of the wells up to such point as he may approve.

With the majority group admitting itself up in the air as to the direction it will take in a redrafted order, and with Commissioner Neff remaining out of its new discussions, the oil men were without the slightest indication what will be the outcome, what production or drilling limits will be applied, when production will be allowed again and when martial law will be lifted.

Encouraging Waste, Says Neff

Commissioner Neff said he refused to join in the attempted order of the commission, and that "it made no mention of the only two things that the law directs the commission to consider, waste of oil and waste of gas."

"I am advocating an oil-gas ratio," he said. "It seems to me that an order such as that which was drafted is merely encouraging a race in drilling of new wells, which would bring about the thing it is desired to stop. When we have issued orders that will keep wells apart and guard the method of drilling to prevent waste, we have done everything the commission is empowered by law to do. So far as the commission's authority goes, an operator then has the right to operate the well and get all out of it he can without violating the regulations."

Provisions of the Order

The main provisions of the order which Governor Sterling disapproved, some of which as to safety provisions may be incorporated in the order when finally signed, included:

An allowable limit of 225 bbls. per day in the East Texas oil field, effective Tuesday when signed.

Offset wells not to be drilled within 330 feet of the property line and other wells must be at least 660 feet apart.

Future drilling to be limited to one well per 20-acre tracts, with exceptions for smaller areas.

The order to be effective for 30 days, and subject to revision then.

Each well must be equipped with a blowout preventer. The use of air lift to be prohibited. Operators to be prevented from drilling more than two-thirds into the oil sand from the top of the strata to the known water level.

Tubing larger than 2½ inches to be prohibited. Tubing not to be spotted more than 50 feet from the top of the sand, nor lowered below the sand.

Wells must be tubed before being brought into production, and to be washed with oil or clear water only.

An agent of the commission must be present when a well is brought in.

The order prohibits flowing wells through the derrick in bringing them in. Discharge pipe must be at least 50 feet from the derrick.

Problem of Reporting in Southwest Texas Solved By Pigeons

* * * * * *

By Fred Singleton
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 31.—Probably the most remote and isolated wildcat tests drilled in the United States are put down in far-away reaches in various parts of Texas. As oil scouts are supposed to have the names, locations and other information on all drilling wells in their districts they often have to drive for hours looking for these hidden derricks, many times leaving their cars to climb some hill or tree, if there are any trees or hills around, in order to scan the surrounding country for their quarry. But parts of Southwest Texas have no hills or trees, nothing but sage brush, mesquite and cacti, and the scouts are disposed to stick with their cars and drive them for miles and miles over lonely trails, up arroyos, and across escarpments which furnish the surface geologist with the detail for mapping the areas which oftentime lead to the discovery of good-looking structures which invite the sinking of such wildcat tests in the deserts.

John F. Camp, rancher and independent oil operator of San Antonio, drilled two such isolated wildcats in partnership with the Stanolind Oil & Gas Co. in McMullen County; one on the Massie ranch and another on the Murphy ranch, about 60 miles from the Mexican border, and a distance of 125 miles from San Antonio, in one of the wildest and most inaccessible parts of the State.

* * * *

The nearest telephone to the tests was at Tilden, a distance of some 25 miles, over an hour's ride from the well. Driving from San Antonio to the well consumed better than four hours of laborious going in dry weather, and during the rainy season the last 50 miles of the road was almost impassable. Therefore, getting information into the San Antonio offices was generally a slow process.

R. E. Cezeaux, head driller for V. F. Neuhaus, drilling contractor, showing how message band is affixed to the carrier pigeon's leg. A box of pigeons may be seen in fore part of picture.

The difficulty of obtaining daily information on the tests led Mr. Camp to try out homing pigeons for carrying messages from the well each day, or whenever messages were needed to be sent into the offices, asking for equipment, repair parts or telling when casing was ready to be set or a core taken.

Pigeons have been a hobby with Mr. Camp for several years, and he has raised and trained many of them, especially when he was living on the ranch, many miles from town. They were first used in carrying messages to and from the ranch.

Several pigeons are taken to the drilling tests each week from their home loft at San Antonio where John F. Camp, Jr., Mr. Camp's son, keeps and trains the birds, and the driller dispatches a bird into town each day with a message strapped to a band on one of its legs.

During the trial flights the birds flew the distance in from one hour and 45 minutes to two hours and 15 minutes, showing how great a time-saver the birds could be. After the trials were conducted, the pigeons were released each day, giving information desired at the offices.

Pigeons are now being used in carrying messages from a wildcat test being drilled in Duval County, which the same company and Mr. Camp are drilling, and their efficiency has been proven day in and day out. They are the most expedient messengers ever used in the industry outside of telephone and telegrams.

It is believed that V. F. Neuhaus, independent operator of San Antonio, and Mr. Camp were the first to adopt pigeons as messenger carriers in the oil industry, the Army and Navy having used them successfully for many years. They have performed their work as faithfully in the oil industry as they did with the armed forces of the United States.

One faithful bird was almost 24 hours in carrying a message from the Duval County test, but finally made it to the home loft under adverse conditions, his body, legs and wings partly perforated by shot from the gun of some ignorant marksman who did not distinguish between this prize bird and some wild one.

Several inquiries have been made by major oil companies, and others, relative to the pigeons and the experiments which have been conducted with them, and it is not to be doubted that many birds may be similarly used by such companies in the future.

R. E. Cezeaux, head driller, releasing pigeon carrying information to the San Antonio office of the operators drilling the wildcat test in McMullen County, Texas.

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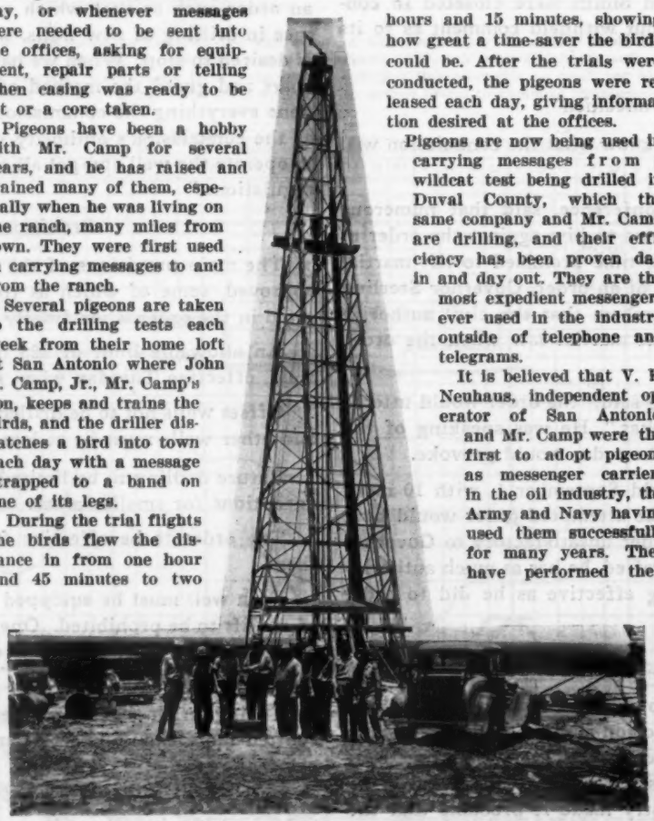

Drilling crew on John F. Camp and Stanolind Oil & Gas Co.'s No. 1 Murphy in McMullen County, Texas. R. E. Cezeaux, driller, is holding a carrier pigeon preparatory to releasing it with message to be carried to the San Antonio office of the owners of the test. From left to right: V. F. Neuhaus, contractor on the well; Tom Camp, John F. Camp, Jr., part owner and trainer of the pigeons; Mr. Cezeaux, C. C. Mayes, fireman; Jack Daspit, W. M. O'Doacharty, night driller; John Boor, and Emzy Cezeaux.

MARTIAL LAW WAS HARD ON FOWLS IN THE EAST TEXAS OIL FIELD AREA

The martial law shutdown of the East Texas oil fields has put the poultry of this section on the reduced rations traditional in war time.

Before the advent of the national guard, the gas flares and flambeaux at 1,600 producing wells, burning brightly at night, lured insects by the millions. Roosters and pullets congregated about the wells and feasted extensively on heaps of fried junebugs and the like.

Then came the soldiers, and the flares were extinguished. For long days now the chickens of East Texas have been compelled to chase their junebugs on the wing or else return to the prosaic antepetroleum practice of scratching for worms.

Merger Passes Preliminary Stages

New Jersey and California Standard Companies Agree on Consolidation. Assets Double Those of Any Other Oil Company

By C. O. Willson

The merger of the Standard Oil Co. (New Jersey) and the Standard Oil Co. of California which according to official announcements of the past week has passed the preliminary stages, will form a combined organization with assets practically double those of any other unit in the oil industry.

A recent report listed the assets of the Standard (New Jersey) at $1,770,993,803 and those of the California company at $610,296,154, or a total of $2,381,289,957. The Royal Dutch-Shell group which would rank second to this combination, is credited with assets of approximately $1,250,000,000. The combined properties would be exceeded only by the American Telephone & Telegraph Co. with assets of $3,162,926,191 and the United States Steel Corp. with listed assets of $2,394,544,611.

Due to the circumstances which are responsible for bringing about the merger of the New Jersey and California companies, it seems reasonable to conclude that through additional combinations or acquisitions the new organization will shortly be further expanded so that once again an oil company will be the largest unit of the business world. Although the combined operations will far exceed in volume those of any other oil company, there will still be important gaps which it will be necessary to fill if the new company is to accomplish its announced purpose of "meeting the competition of other large oil corporations which have nationwide systems of distribution." The combined companies will not have refineries conveniently located or market outlets to serve a territory in the United States extending through the central part of the United States from and including the Rocky Mountain states to the Pennsylvania-Ohio line, including several states of the Southwest and Southeast.

This territory absorbs approximately 50 per cent of the gasoline and other petroleum products consumed in the United States. It is due to this condition that predictions are heard that as soon as the merger is completed steps will be taken to enter this domestic territory which is comparable in importance with the combined export business of the two companies. This could be accomplished through expansion of refining and marketing facilities or through merger with other Standard or independent units already established.

Refinery Position

The accompanying table which gives a list of the refineries in the United States and Canada involved indicates the magnitude of the proposed merger and also reflects the domestic marketing position of the combined operations. The refineries of the operating companies of the Standard Oil Co. (New Jersey) extend along the coast from Everett, Mass., plant of the Colonial Beacon Oil Co. to the Ingleside, Tex. (near Corpus Christi) plant of the Humble Oil & Refining Co. The latter company has five inland plants in Texas serving its marketing facilities in that State but the bulk of its refinery capacity is in its Ingleside and Baytown, Tex., plants, located on the Gulf Coast.

The Standard Oil Co. of California has two coastal plants located in California and one inland plant at Bakersfield, Calif. These plants take care of its domestic requirements in the West Coast states and also its foreign business.

The crude oil capacity of the 19 refineries of the two companies in the United States is 769,500 bbls. daily which is 20 per cent of the total capacity of the operating plants in the United States. The cracking capacity of these refineries is 550,100 bbls. daily which is 30 per cent of the total in the United States. Considering both crude oil and cracking capacity along with other plant facilities, it is probably no exaggeration to state that 25 per cent of the refining capacity of the United States will be combined if the merger is finally approved.

The domestic market outlets for these refineries is practically confined to coastal states which can be served by the refineries without excessive transportation charges. Additional refineries with connecting pipe line or water transportation systems would be needed if marketing facilities were expanded to include a large number of inland states. It is estimated at present that the two companies including subsidiaries furnish 18 per cent of the gasoline consumed in the United States.

In Canada, the Imperial Oil, Ltd., a subsidiary of the New Jersey Standard, has long been the largest refiner and marketer. Its six refineries scattered throughout the dominion have a crude oil capacity of 97,000 bbls. daily which is 71 per cent of the total with 80 per cent of the cracking capacity.

According to reports for 1930, the refining companies of the Standard Oil Co. (New Jersey) ran 495,003 bbls. of crude oil to its stills daily of which 363,718 bbls. daily was at domestic refineries and the remainder at foreign plants. The California company for the same period averaged 142,398 bbls. daily to stills.

Crude Oil Production

In the production of crude oil the two companies are credited with a combined domestic and foreign crude oil production of 143,789,032 bbls. in 1930, which was exceeded only by the Royal Dutch-Shell group. In the domestic end, special importance is attached to the vast proven holdings of the California company in the Kettleman Hills fields of California and the East Texas and West Texas properties of the Humble Oil & Refining Co. The California company has never been a large producer in foreign fields but the holdings of the New Jersey company particularly in South America, exceed those of any other American company.

In connection with its production operations, the two companies are among the largest manufacturers of natural gasoline. In California the Standard subsidiary is easily the largest manufacturer of natural gasoline with an assured supply for an indefinite period through its Kettleman Hills holdings. In the Mid-Continent the Carter Oil Co., Humble Oil & Refining Co. and the Standard Oil Co. of Louisiana are large manufacturers and the Hope Construction & Refining Co. is a major manufacturer of the Eastern fields.

The extent of the operations involved in the merger is indicated in the following list of companies which are controlled directly by the Standard Oil Co. (New Jersey):

Standard Oil Co. of New Jersey; Carter Oil Co., Standard Oil Co. of Louisiana, Imperial Oil, Ltd., International Petroleum Co., Ltd., Kolonicla, Colonial Beacon Oil Co., Standard Oil Co. of Cuba, West India Oil Co., Standard Oil Co. of Brazil, Pen-Del Investing Co., Pennsylvania Lubricating Co., Standard Oil Co. of Pennsylvania, Romano-Americana, Standard-Nobel, Cia Petrolera Titania, S. A., Cia Transcontinental de Petrolia, Cia de Petroleo Mercedes, S. A., Cia Petroleo Minerva, S. A., Cia Petrolera Olympia, S. A., Cia Petrolera Rayon, S. A., Clarksburg Light & Heat Co., East Ohio Gas Co., Connecting Gas Co., Lycoming Gas Co., Ajax Holding Co. (Ajax Pipe Line Co.), Domestic Coke Corp., Hydro Engineering & Chemical Co., Agwi Petroleum Corp., Tuscarora Oil Co., Ltd., Standard Oil Co. of Argentine, Creole Petroleum Corp., Trinidad Oil Fields Operating Co., Standard Oil Co. of Bolivia, Stanco, Gilbert & Barker Co., Standard Shipping Co., Standard Oil Development Co., Ethyl Gasoline Corp., Oklahoma Pipe Line Co., Standard Pipe Line Co., Standard Oil Export Corp., Anglo-American Oil Co., Ltd., Standard I.G. Co., Stanavo Specification Board, Inc., Hope Natural Gas Co., Interstate Natural Gas Co., Reserve Gas Co., Peoples Natural Gas Co., Colorado Interstate Gas Co., Columbia Natural Gas Co., Mississippi River Fuel Corp., International Co., Ltd., Hope Construction & Refining Co., Hydro Patents Co., International Hydrogenation Patents Co., and Humble Oil & Refining Co.

Among the companies owned 100 per cent or controlled by the Standard Oil Co. of California are the following: The California Co., Richmond Petroleum Co. of Columbia, Richmond Petroleum Co. of Mexico, Richmond Petroleum Co. of Venezuela, California Petroleum Exploration Co., Standard Gasoline Co., Pasotex Petroleum Co., Pasotex Pipe Line Co., California Standard Oil Co. of Mexico, the Bahrein Petroleum Co., Ltd., Standard Management & Operating Corp., Standard Stations, Inc., Col-Tex Refining Co., Huntington Beach Co., Contact Filtration Co., Associated Pipe Line Co., Pacific Public Service Co., International Bitumen Emulsion Corp., Coro Petroleum Co., Pacific Public Service Co., Standard Pacific Gas Line Co. and Spray Chemical Corp.

The foregoing do not include a long list of subsidiary or affiliated companies of the companies controlled by the California and New Jersey Standard. It will be noted that both companies are largely interested in natural gas pipe line and distributing systems. Over the past three years the expansion of the companies in this division of their activities has been outstanding, the California company having developed its California gas properties while the New Jersey company through subsidiaries has been interested in most of the major natural gas projects of the Middle West and East.

Not the least of the tangible assets of both the New Jersey and California companies are the several companies who control important developments in refinery processing, including new products. The New Jersey company for years has maintained an active development and research department which has been supplemented by similar activities on the part of subsidiary companies. As a result the company has a strong position in this phase of oil company activities which has rapidly increased in importance in recent years. The New Jersey company controls what is known as the Tube and Tank

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REPORT PROGRESS IN MERGER PLANS

At the conclusion of a conference last week at Lake Tahoe, Calif., by officials of the Standard Oil Co. (New Jersey) and the Standard Oil Co. of California the following joint statement was issued by Walter C. Teagle and K. R. Kingsbury, presidents of the two companies:

"We have agreed that a merger of the Standard Oil Co. (New Jersey) and the Standard Oil Co. of California would be logical and advantageous. We are working toward a plan to this end, and no insurmountable obstacles to a merger have developed during our discussions. However, it must be appreciated that a merger of this importance involves many intricate questions requiring careful consideration, and that some of these questions could not have been anticipated prior to our meeting here. Arrangements have been made to carry on studies of these points and a resumption of the conferences has been agreed upon at a date not yet fixed.

"Some of the impelling reasons in favor of the proposed merger are these: Standard Oil Co. of California holds important domestic crude oil reserves but is without any important foreign crude reserves and possesses only limited distributing facilities abroad. On the other hand, the Standard Oil Co. (New Jersey) has limited domestic crude oil reserves but a large foreign production, and an important system of distribution outside the United States.

"In its domestic marketing the New Jersey company operates on the Atlantic Seaboard and the Gulf Coast states; the Standard Oil Co. of California in the states and territories west of the Rocky Mountains. Hence the operations of the two companies are in effect complementary and the proposed merger would make possible the most economic employment of their reserves and facilities.

"Today each of the two companies is handicapped through being able to meet only locally the competition offered by other large oil corporations which have nation-wide systems of distribution. To meet the competition of such corporations the two companies referred to feel under necessity of enlarging the territories in which they market their products. This need can be met by each company expanding separately or through consolidation. To adopt the former policy would involve a costly duplication of existing facilities which are already more than adequate to handle the trade, with consequent economic waste and without any compensating benefit. A merger would accomplish the same result without wasteful duplication and would utilize the complementary facilities of the two companies. Furthermore, a merger would make possible many important economies, such as the use of more accessible points of supply and the elimination of cross hauls.

"With respect to the two principal items of oil company operation, namely, crude oil production and gasoline sales, the proposed merger, on the basis of 1930 figures, would involve approximately 10 per cent of the total crude oil production and approximately 18 per cent of the total gasoline business of the United States, domestic and export."

High Gravity Well in Greasewood Dome

Completion of Large Producer Indicates Probable Development of Major Oil Field in Weld County, Northeastern Colorado

By Tolbert R. Ingram

DENVER, Colo., Aug. 29.—The Reiter-Foster Oil Co.'s No. 1 Ida Johnson, C NE NW, Section 24-6n-61, on the Greasewood Dome, in Weld County, northeastern Colorado, encountered oil in a broken sandy shale at 6,642 feet the middle of this week. Drilling continued to 6,645 feet, 3 feet into the pay. The tools were pulled once and the oil shot 60 feet over the casinghead. They were then put back into the hole and the oil was turned into a 4-inch flow line and the gas was diverted away from the derrick through another 4-inch line. Another new oil field, one that bears all the marks of a major pool, but which will not be permitted to demoralize any markets, was definitely proven.

The first gauge showed 18 bbls. in 20 minutes. Several gauges for short periods were taken and then a 12-hour test was started. In that period it put 504 bbls. into the tank, which is located on top of a high 41 feet above the derrick floor and 2,000 feet away. The tools were in the hole during the test. In the next 12-hour period it averaged 37 bbls. per hour. The well was then deepened to 6,652 feet and made 699 bbls. in 12 hours. Paul Ache, president of the company, estimates that when the tank is moved closer to the well and to a lower elevation, 3-inch tubing run and the well is repressured that it will make 1,500 to 2,000 bbls. daily. The gas flow is estimated at 5,000,000 feet a day. The well will be completed at this depth.

The oil is a light green in color, of paraffin base, and the first samples showed a gravity of 41 degrees. The crude is of practically the same quality as that found in the discovery well which resembles Pennsylvania crude in many respects. It has a sweet odor and the sulphur content is very low. The analysis indicated that it will be very desirable for the manufacture of viscous and non-viscous lub stocks. A summary of yields from the crude in the discovery well showed 30.8 per cent gasoline; 13.1 per cent kerosene; 12.1 per cent gas oil; 26.9 per cent wax distillate; 15.6 per cent steam refined stock; loss, fire and steam distillation 1.2 per cent; loss, distillation of heavy naphtha, 1.2 per cent.

Location of Discovery

The location of the well is 70 miles northeast of Denver in an air line; 50 miles southeast of the Wellington-Fort Collins Domes in Larimer County, the nearest production; 36 miles south of the Wyoming line; and 108 miles west of the Kansas line. It is 12 miles north of the Omaha-Denver line of the Union Pacific Railroad and the South Platte River at Orchard, and 22 miles southwest of the Sterling-Cheyenne line of the Chicago, Burlington & Quincy Railroad at Buckingham. The area is known as the plains region of northeastern Colorado, a rolling country covered with the Tertiary formation and 60 miles east of the main range of the Rocky Mountains along the foothills of which are the structures which in former years received attention from the wildcatters.

The discovery well on the Greasewood Dome, the Platte Valley Petroleum Co.'s No. 1 Patterson, NE SE NW, Section 24-6n-61, came in on October 10, 1930, at a total depth of 6,667 feet in a sandy shale supposed to be just above the first sand in the Dakota formation of the lower Cretaceous. This well had been drilling for nearly five years. It made 450 bbls. the first 24 hours and then dropped to 350 bbls. where it has held steady ever since. It has never been definitely determined whether this well ever reached the sand. It was drilled into the pay with bit inside the 4¾-inch and while it was supposed to have been deepened a few feet, there is a question as to whether it actually made any new hole on account of the oil and the muck that was cleaned out.

This discovery, and the geological work subsequently done, convinced the oil men that northeastern Colorado was a potential oil field in which there are several low-dip structures of the Mid-Continent type rather than the steep and comparatively small structures of the Rocky Mountain type. A leasing campaign throughout that district followed, more than 1,000,000 acres being taken up over a territory 150 miles wide and 200 miles long.

Avoided Drilling Campaign

On account of the low price of crude, the desire to avoid bringing in any new flush production under the demoralized conditions existing in the industry and the necessity for oil companies conserving their cash, no extensive drilling campaign was undertaken. However, the Platte Valley company, which had been financed by Colorado and Chicago people principally, and which held considerable acreage around the discovery, was obligated to drill several wells in order to hold its leases. It was not in a financial position to undertake this work, and last April a contract was made with the Reiter-Foster company to drill an offset on the Ida Johnson tract, to be followed by three other wells considerable distances apart in the event a producer was found. This contract was rather unique in that it specified that a commercial well was one which averaged 500 bbls. a day over a period of 30 days in a saturated sand at least 40 feet

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The Oil City Derrick is 60 Years Old

Newspaper, Known Throughout Petroleum World, Was Pioneer in the Compilation of Industry's Statistics

Few anniversaries have the retrospective appeal to the oil industry, especially to the older generation, as that which will be celebrated on September 11 by The Oil City Derrick of Oil City, Pa., on the occasion of its rounding out 60 years of service to the petroleum industry of the nation and the world. Wherever oil and gas are sought or found, the Derrick is known. It has been as indispensable to executives and field men as Mail Pouch to the man on the derrick floor.

The Derrick was started 12 years after Colonel Drake completed the first oil well. Accurate information regarding drilling operations and production was mighty hard to obtain in the early days. Scouts had to perch on tree tops, far removed from the derricks, and endeavor with the aid of field glasses to count strings of tubing or casing to ascertain the depth of wells. Pitched battles were frequent, especially when companies began to construct pipe lines.

From September 11, 1871, the Derrick expanded with the growth of the oil industry in the Eastern fields. It became the organ of petroleum and was the only source of all statistics so essential to companies efficiently planning their operations. These statistics, compilation of which was begun by the Derrick, and which have been kept up to date by that newspaper and The Oil and Gas Journal, are accepted without question by the United States Government and all oil companies. The U. S. Bureau of Mines uses figures of these publications each month in its monthly reports and each year in its annual reports covering the petroleum industry.

The Derrick's Handbook of Petroleum, containing oil field chronology from the birth of the industry, assembled and published in book form by the Derrick, is by far the most comprehensive and accurate record of the entire industry from its beginning. Yearly booklets published by the Derrick have kept this compilation up to date.

With the expansion of the oil industry to areas west of the Mississippi River, Patrick C. Boyle, owner of The Oil City Derrick, felt the industry needed another national publication with headquarters in the rapidly developing territory known as the Mid-Continent. He purchased the publication now known as The Oil and Gas Journal in 1910. With the long experience of The Oil City Derrick behind it, The Oil and Gas Journal quickly assumed the leading place as the weekly publication of the oil industry. It was located in Tulsa and did much towards making that city the oil capital of the world.

The Oil City Derrick is particularly fortunate in having as its editor and general manager John O'Donnell, one of the best known and most experienced newspaper men in western Pennsylvania. Mr. O'Donnell is a close student of business conditions and his clear, concise editorials in the Derrick have been republished in newspapers throughout the nation. The Derrick is a powerful factor in business and civic interests throughout western Pennsylvania and the adjoining territories it serves. Few newspapers have its background or can approach its record of long and valuable service both to the community in which it is located and to one of the greatest of the nation's industries.

PETROLEUM'S PILGRIM AND DISCOVERY WELL

—Photo by "Acme."

Samuel Smith, who helped Colonel Drake drill the first oil well, seated beside what remains of that well near Titusville, Pa.

Simple Engineering Principles Useful

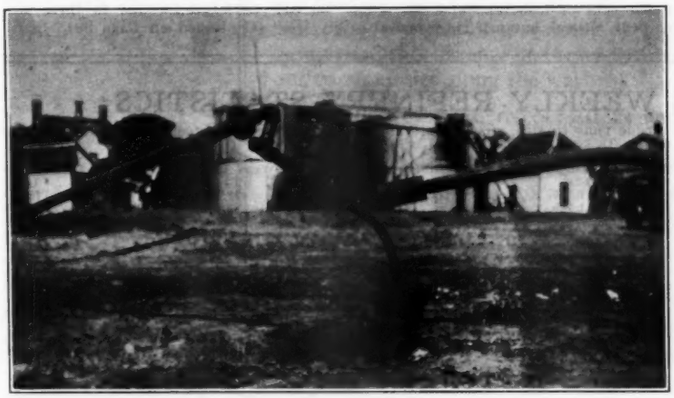
Will Aid in Solving Development and Production Problems in East Texas. Dangerous Practices and Losses That Can Be Eliminated

By Harold Vance and Verne Fagin*

The East Texas Field has been responsible in its short period of development for more disastrous fires than any other development program in the history of the oil industry. The cause of these fires has been due chiefly to the highly explosive and inflammable nature of the oil and gas produced. The atmospheric conditions, topography and the wooded nature of the country has added materially to the fire hazard after the oil and gas have been brought to the surface.

The gas produced with the oil carries about 3½ gallons of gasoline to the thousand feet, and comes in a quantity averaging about 350 feet to the barrel. The low gas-oil ratio has been fortunate from the standpoint of fire hazard, and to date it has been the quality rather than the quantity of the gas escaping which has been responsible for most of the fires. Gas of this high gasoline content has a high specific gravity causing it to settle in low places and the wooded nature of the country prevents dissipation and dilution of this gas. The explosive range of gas varies from 1 to 15 per cent and the flashpoint is very low.

Very little danger is connected with drilling wells through the pay, because of the known low bottom hole pressure. This bottom hole pressure can be determined directly from bottom hole pressure bombs, which are in common use by several companies in the field, or can be calculated very closely when the following data are known: Total depth of sand, gravity of the oil, amount of gas produced with oil, and pressure at the well heads when producing through a small choke.



First completion in the town lot area of East Texas Field. Fire destroyed the rig immediately after completion.

Bottom Hole Pressure

The average bottom hole pressure for the field is about 1,500 pounds per square inch. This is the pressure which must be overcome by the weight of the fluid used in drilling through the pay. This average pressure can be equalized by a column of pure water 3,500 feet deep. As a contrast, a bottom hole pressure of about 1,500 pounds was encountered in the Hendricks Field in Winkler County in some cases at a depth of 2,400 feet. In this case, it requires a mud fluid with a specific gravity of about 1.4 in order to prevent the well from coming in while drilling in. While drilling under conditions such as these it is necessary to watch the mud fluid very closely and have the well equipped with master gauges and blowout preventers, but with conditions such as exist in the East Texas Field it appears that reasonable precautions and care of the drilling fluid is all that is necessary to prevent a blowout.

In drilling wells on the western edge of the field, more care should be given to the weight and character of mud fluid used in drilling in because of the natural higher bottom hole pressure, which requires a greater weight per foot of mud fluid to overcome the sand pressure.

The most disastrous fire in connection with drilling wells which has occurred in Texas since 1923 was on the Sinclair's No. 1 Cole on the Samuel Brooks Survey northwest of Kilgore. This well had been drilled to a total depth of 3,660 feet and 7-inch casing cemented at 3,038 feet, and while drilling the plugs on April 26, 1931, the well came in flowing a large amount of oil accompanied by the usual amount of gas. On April 28 this well caught fire while attempts were being made to shut it in. Nine men died as a result of the fire. The oil-soaked nature of the ground surrounding the well prevented a number of men from escaping. A blowout preventer and a master gate on the well, although an added drilling expense and not entirely necessary due to the low bottom hole pressure, would, undoubtedly, have prevented this fire.

With the exception of the Sinclair well, all other fires in the field have been caused by bringing the well in, or caused by fires originating at the tank battery.

Tank Battery Fires

The loss of lives from tank battery fires which have not been associated with wells being brought in has been small. As a precaution around tank batteries it is now customary to manifold all tanks and carry the heavy gas from the tank tops out some distance from the tank battery, where it is burned. Some trouble has been encountered by the customary method of manifolding the tank batteries for this purpose as the gas is so heavy that it cannot be removed from the tank without use of a jet. Figure 1 shows a manifolding system with jet used by one of the companies in the field. This system proves an economic and satisfactory method of removing the gas from the stock tank.

The Bell & Graddy well, the Tulsa Oil Co. well, the Vitek well, the Thorpe well and several other less disastrous fires have been caused by ignition of the gas while the well was being brought in. It has been the customary practice to run tubing, wash well thoroughly with water, and if the well does not start flowing while it is being washed, it is then swabbed through the tubing. As soon as the well starts flowing through the tubing it is then opened through a clean line to the sump and is allowed to clean itself through the tubing. After the well has cleaned itself through the tubing the oil is allowed to flow through the separator. After a sufficient pressure has been built up on the casing the clean line from the casing is opened into the sump and the well allowed to clean itself through the casing. This method of cleaning a well, both through the tubing and the casing prevents any mud or water passing twice over the sand. Naturally, during this process of bringing in a well, a large amount of oil and gas has accumulated around the well. Boilers are usually set too close to the well, and even in cases where the fires have been extinguished under the boilers and the fire boxes cooled with water and steam, the writers have seen the gas ignite directly from the boilers. Due to the fire hazard accompanying the bringing in of the well, all oil and gas should be kept as far from the well as possible. If the well will not come in by washing it should be swabbed in and allowed to clean itself from both the casing and the tubing through the flow lines to the separator with the gate at the bottom of the separator open. This oil, mud and water should be allowed to flow into a sump some distance from the well with the gas escaping through the vent line located some distance from either the well, tank battery or the cleaning sump.

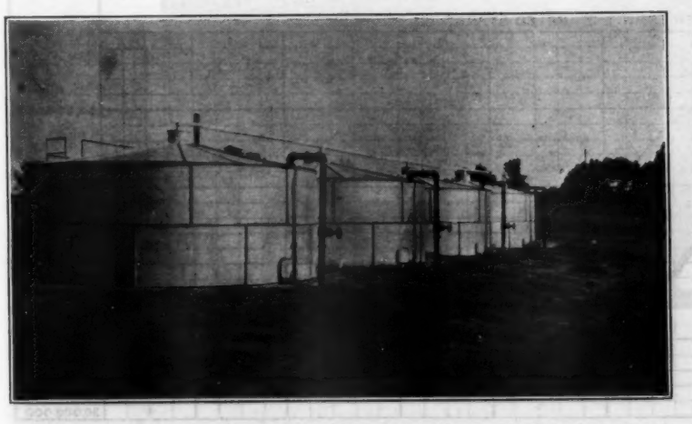
Cleaning a well in the Kilgore area directly into sump. This well caught fire from the boiler 5 minutes after this picture was taken.

Bell and Graddy Well

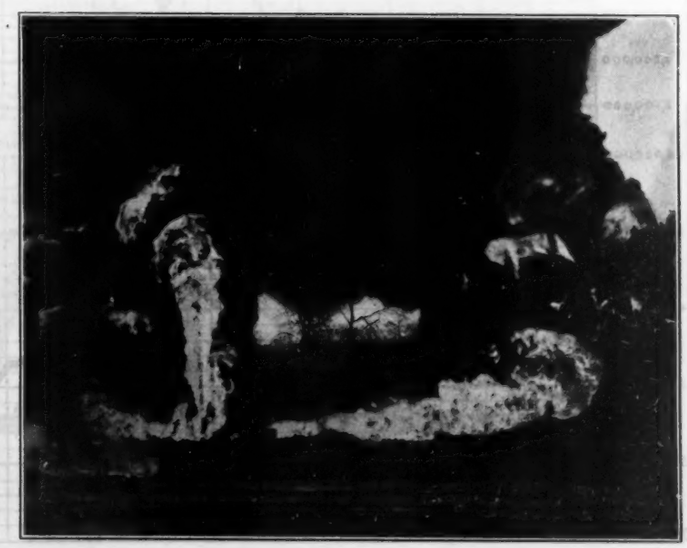
The Vitek-Eaton No. 5 well, which caught fire while being brought in, was

(Continued on Page 35)

*Vance-Fagin Engineering Co., Petroleum Engineers, Kilgore, Tex.



Representative tank battery installation in Kilgore area. Note area within fire wall and gas vent system on top of tanks.



Bell & Graddy's No. 1 George after a shot was exploded to destroy "christmas tree."

Outline Utilization of Refinery Gases

Papers and Discussion Presented Before American Chemical Society at Buffalo of Immediate Practical Value

By W. T. Ziegenhain

The meeting of the American Chemical Society in Buffalo held during the first two days of September, included a symposium on the "Utilization of Gaseous Hydrocarbons," a subject of considerable interest among refiners and natural gasoline manufacturers at this time. The refiner is witnessing the increasing production of gases as a result of more intensive cracking to produce gasolines of higher octane number. The natural gasoline manufacturer has become particularly interested because natural gasoline prices have declined to where the revenue from this source must be augmented by a revenue from the by-products, the principal one of which is the residue gas.

For these reasons the papers dealing with the pyrolysis of the simple hydrocarbon gases and also those which dealt with reforming gases prompted the most discussion.

One of these was written by F. E. Frey and H. J. Hepp, of the Phillips Petroleum Co., and described laboratory and commercial scale results in the pyrolysis of simple paraffins to produce aromatic oils. The study was made with particular emphasis paid to the time element during contacting.

The authors explained that the work was undertaken for the purpose of manufacturing a motor fuel from these by-product gases since this offered the only means of providing a large enough outlet to warrant large scale operations, and this in turn is considered necessary in order to justify the necessary expenditure in new equipment. The manufacture of benzol as a motor fuel was first discussed. The authors stated:

"Cracking temperatures above 700° C. are required and this introduces practical difficulties not encountered in oil cracking. Methane, in spite of its abundance, offers less promise perhaps at the present time as a source of benzol than the other gaseous hydrocarbons because of the high temperatures needed to decompose it and the low yields of benzol obtained. Fractionator vapors from refineries and gasoline plants, composed chiefly of gaseous hydrocarbons other than methane, are more suitable for conversion into benzol and are available in large quantities.

"Of the gaseous hydrocarbons used in these experiments, ethane, ethylene, propane and butane were commercial products containing as impurities other hydrocarbons to the extent of 4 per cent or less. The methane used was natural gas containing 10 per cent of ethane and other impurities. The butane contained 11 per cent of isobutane and 86 to 88 per cent normal butane. The apparatus used to process these gases essentially included a gas container, a meter, a silica tube which acted as the cracking chamber and means of collecting the products. The gas to be studied was introduced into the container and from here was passed through a meter and into the cracking zone. In further describing the apparatus, the authors said:

"The silica tube was mounted in a tube furnace so as to slope slightly downward from the horizontal in the direction of flow of the gases undergoing cracking, in order to allow tar deposited in the exit end of the tube to flow away from the cracking zone. In order to permit time and temperature to be observed separately, a long cracking zone of known volume, maintained at an even temperature was provided. The tube furnace was 90 c.m. in length, wound in three sec-

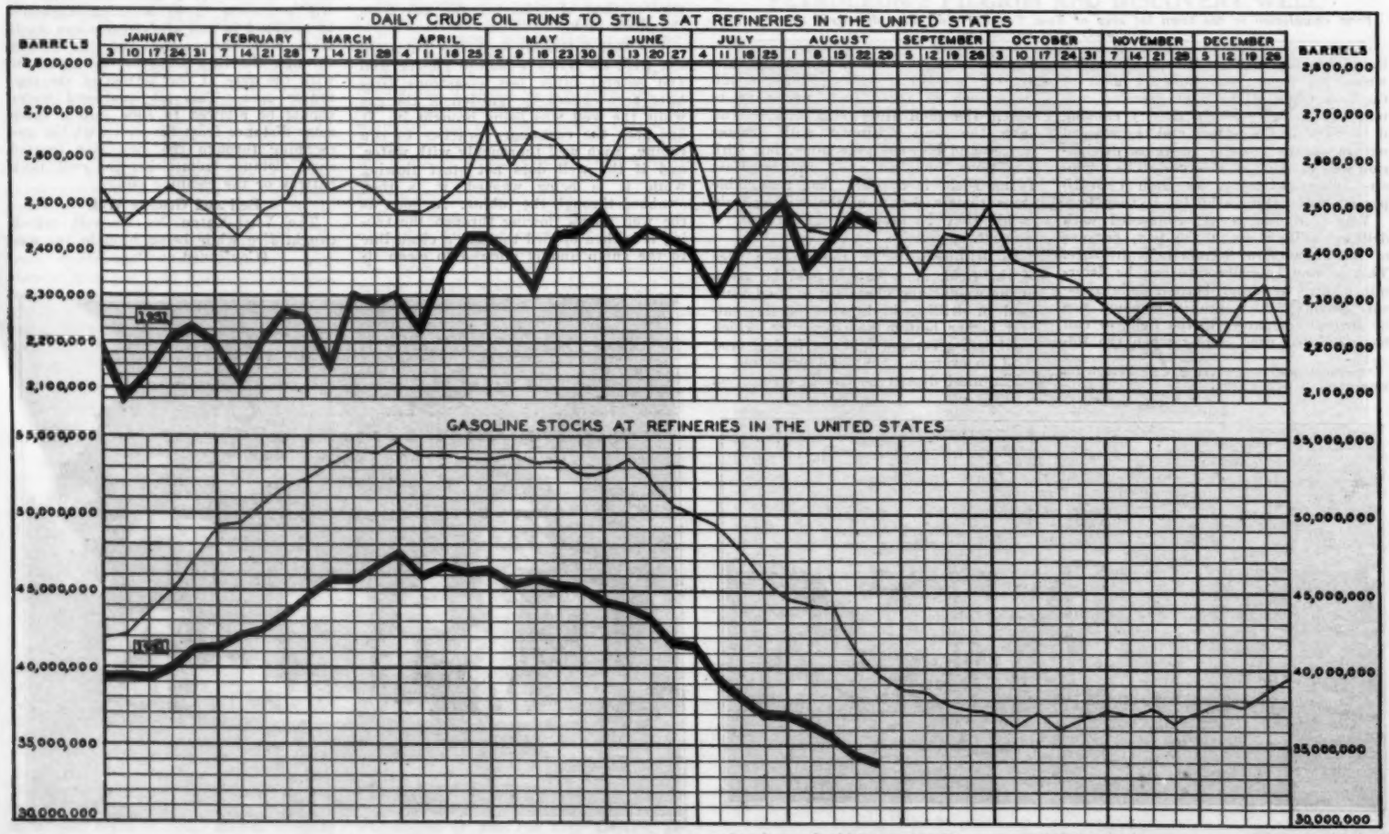
(Continued on Page 99)

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to still, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending August 29.

	Week ending August 29, 1931				Week ending August 22, 1931				Week ending August 30, 1930			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	457,600	4,360,000	10,303,000	100.0	447,300	5,036,000	10,959,000	100.0	499,700	5,714,000	10,772,000
Appalachian	91.8	100,400	1,180,000	1,448,000	91.8	111,400	1,271,000	1,470,000	91.8	86,600	1,217,000	1,923,000
Indiana, Illinois, Kentucky	98.9	325,400	4,715,000	4,429,000	98.9	333,400	5,169,000	4,280,000	99.6	287,400	6,049,000	4,413,000
Oklahoma, Kansas, Missouri	89.6	290,400	2,443,000	5,192,000	89.6	308,300	2,477,000	5,167,000	89.3	248,900	2,940,000	4,808,000
Texas	91.3	539,200	6,128,000	11,552,000	91.3	537,100	6,587,000	11,317,000	90.4	542,400	5,669,000	10,186,000
Louisiana and Arkansas	98.9	190,300	816,000	3,074,000	98.9	185,000	707,000	3,224,000	96.8	174,400	1,234,000	1,945,000
Rocky Mountain	89.3	53,300	1,289,000	817,000	89.3	57,300	1,224,000	821,000	93.6	53,400	2,054,000	1,208,000
California	96.5	486,400	11,779,000	97,570,000	96.5	478,600	11,437,000	97,567,000	99.3	546,300	13,938,000	105,297,000
Total United States	95.0	2,453,000	33,215,000	134,585,000	95.0	2,458,400	34,068,000	134,805,000	95.6	2,439,100	38,815,000	139,662,000
Texas Gulf Coast	91.8	396,700	4,909,000	8,141,000	99.8	405,100	5,472,000	7,991,000	100.0	409,100	4,369,000	7,292,000
Louisiana Gulf Coast	100.0	127,600	685,000	2,033,000	100.0	124,200	595,000	2,153,000	100.0	122,400	916,000	1,314,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



Data for 1931 based on weekly reports of the American Petroleum Institute. Figures for last week not shown in graph but are included in above tables.

A Stupendous Engineering Feat!

Across the Mississippi by special engineering measures, and over several other rivers by multiple-line construction, a great project that is to make natural gas flow from wells in the Texas Panhandle to Indiana, is taking its way through five states.

The Panhandle-Eastern Line, a joint enterprise of the Missouri-Kansas Pipe Line Co. and the Columbia Oil and Gasoline Corp., will carry a tremendous volume of fuel gas over all this distance and serve numerous communities along the way.

Considering canyons, river-crossings and stretches of rough country, it was an extraordinary achievement to complete within seven months all that part of the line extending from the Panhandle to the Mississippi. The whole enterprise now nearing completion, involving more than 1100 miles of pipe, is regarded as one of the most noteworthy feats of engineering ever undertaken for the gas industry.

It detracts nothing from the efficient organization and the skill employed, to say that the character of the pipe used contributed materially to make possible such an accomplishment. Widely adaptable, workable, easily handled, of remarkable strength and durability, NATIONAL Pipe features in this as in other outstanding projects, confirming its rank as—*America's Preferred Line Pipe.*

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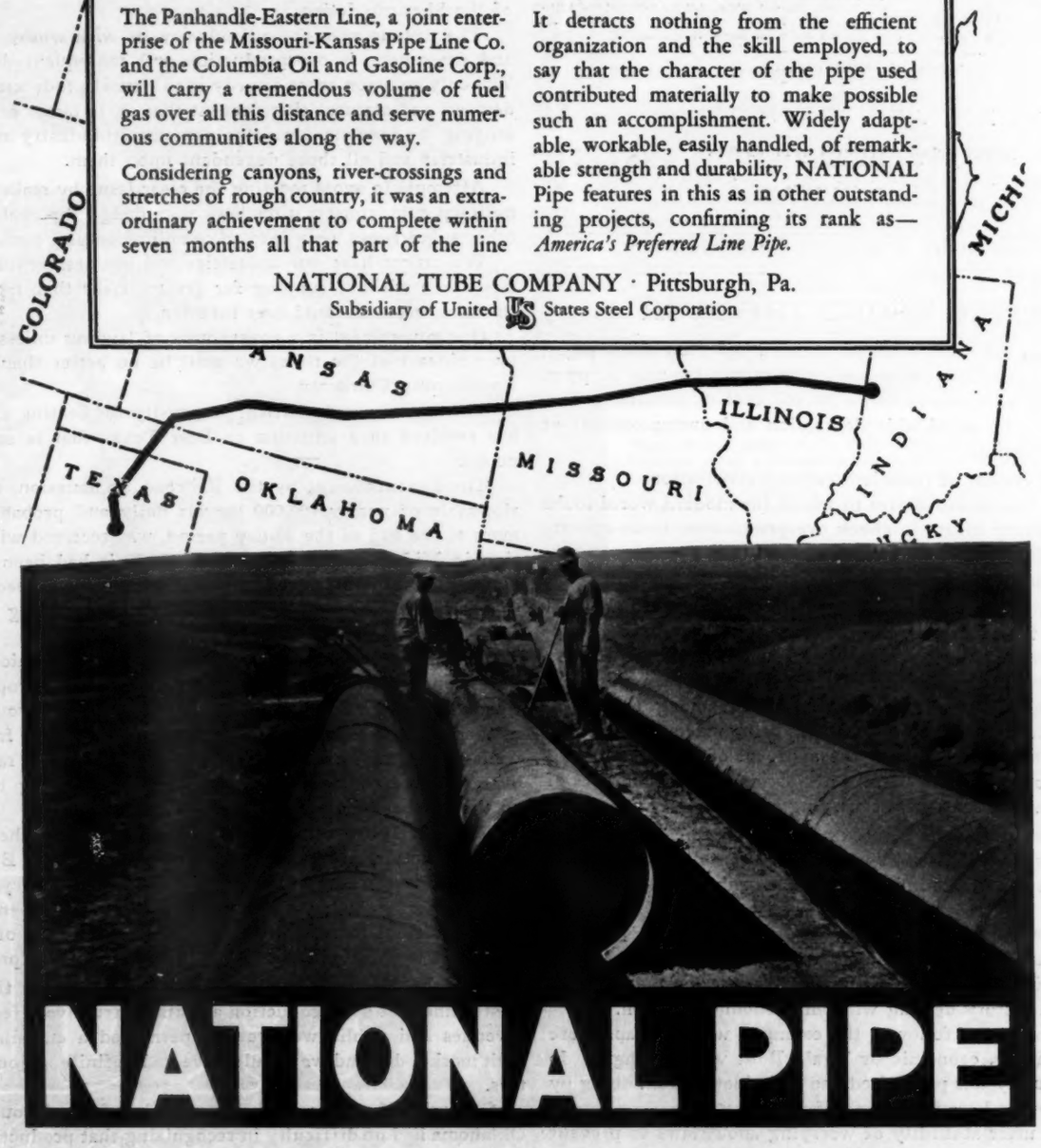

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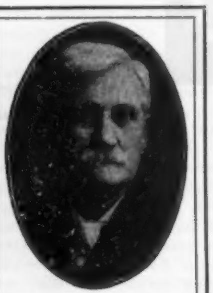

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BEATING ABOUT THE BUSH

Too much oil, too much coal, too much wheat, too much sugar, too much cotton, too much coffee, too much rubber, too much copper.

Prices falling everywhere to below the cost of profitable production resulting in world-wide depression and unemployment of both labor and capital.

What an indictment of twentieth century civilization.

And here in the United States to which the modern world looks for leadership every effort to check overproduction, to co-operate in steadying industry and business, is chained to the post by archaic laws and still more antiquated popular opinion.

Take oil, for example. There has been no time within the past five years that the leaders in the industry could not have got together and stabilized the business on a sound foundation if they had been permitted to do so.

When virtual agreement had been reached among the world leaders of the industry and an attempt was being made to put it into effect in the United States, with the approval of the Federal Oil Conservation Board, the Department of Justice rattled the bones of the antitrust law and sent them scurrying to cover.

With leadership thus frustrated and forbidden, matters went from bad to worse until East Texas oil at 10 cents a barrel threatened the destruction of the industry and the bankruptcy of oil producing states.

Then dire necessity demanding action drove a governor of Oklahoma to brush aside legal technicalities, economic and otherwise, and resort to military force in time of peace, the most dictatorial act in American history dealing with an economic question.

A governor of Texas followed the example, with perhaps more shadow of reasoning, economic or legal. Both were trying to do what the oil industry was prohibited and intimidated from doing by horse and buggy age laws in this era of motorization.

Consider the utter absurdity of worrying about laws to prevent extortionate prices at a time when the whole world is overwhelmed with runaway overproduction of every essential staple commodity.

The old economists who preached that "competition is the life of trade" never dreamed of such a situation as this. Their fear was that monopoly might corner the supply and gouge the consumer. They had no conception that competition to get rid of oversupply would force prices so far below cost of production as to threaten world bankruptcy.

Competition resorting to price cutting has been the death rather than the life of trade and the immediate need of today is the regulation of competition that will permit trade to live and provide employment and a market.

So, while the governor of Oklahoma may have been mistaken in his method he had the right idea that it was the price for oil that mattered and the courage to come out and say so.

His Texas colleague, possibly hampered by the addiction of his constituents to antitrust agitation, seems to have hoped that the shibboleth of preventing physical waste would get him through, carefully banning any consideration of matching supply with demand and thereby maintaining a justifiable price for the product.

The straightforward way is always the better way even if it is sometimes the longer road. The Oil and Gas Journal, for one, believes that the industry would be in vastly better shape today if there had been less pussyfooting in trying to please the worshippers of the Sherman fetich.

The trouble with the oil industry, as with wheat, sugar, copper and the others, is overproduction and consequent distress prices. The only common sense remedy is to curtail production to meet the demand and statutes that prevent that curtailment are simply prolonging the conditions which plague the oil industry and these other industries and all those dependent upon them.

Attempts to avoid meeting the clear issue by makeshifts such as military rule, conservation laws that dodge the real solution and other subterfuges, only lead to complication and confusion.

We cannot have our industries and business regulated by military force without running far greater risks than modification of the antitrust acts could ever threaten us.

Our government is a government of law but unless we keep our laws abreast of the times we shall be no better than the ancestor worshipping Chinaman.

This popular and political propensity for beating about the bush has resulted in a situation in East Texas that is satisfactory to no one.

The announcement by the Railroad Commission, indicating an allowable of nearly 400,000 barrels daily and probably 450,000 or more at the end of the 30-day period, was received with consternation in Mid-Continent oil circles where it had been calculated a reasonable allowable for East Texas would not exceed 350,000 barrels, 300,000 being considered ample if the producing industry was to regain its feet.

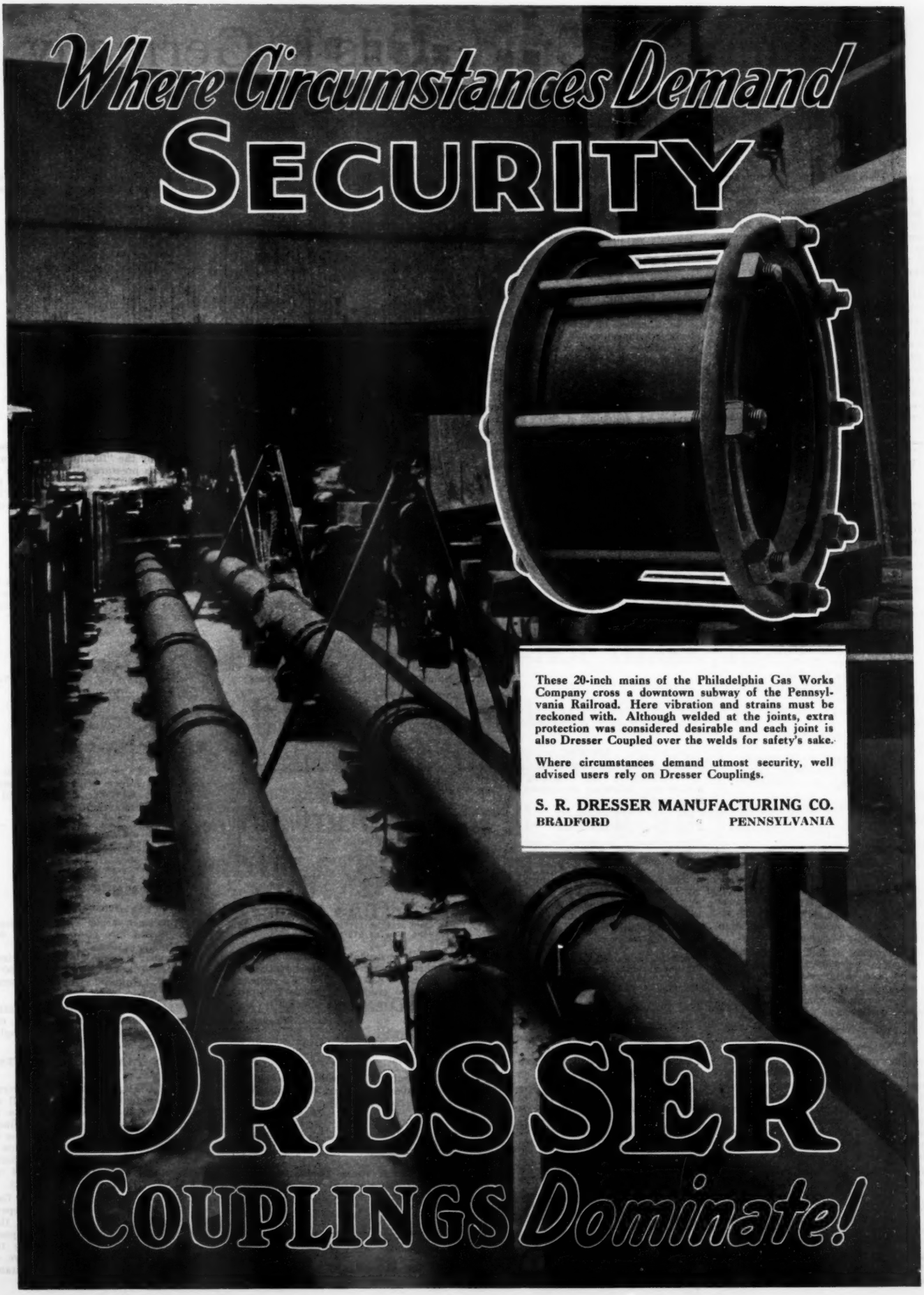
The 225-barrel per well basis was a direct invitation to increase development which was hardly mitigated by the proposed restrictions designed to check wasteful drilling and dangerous production methods. Enforcement of these restrictions and the fact that some wells would not be able to maintain the 225-barrel rate could not overcome the overproduction stimulated by basing the allowable on the number of completions.

Fortunately Governor Sterling quickly grasped the significance of the situation and interposed effective objection. But the whole muddle is a striking illustration of the inefficiency of political regulation of industry and business, particularly when there is deliberate refusal to recognize the fundamental facts of the case in the effort to avoid clash with obsolete statutes and prejudices.

Had the Texas legislature frankly recognized the economic wastefulness of overproduction and its destructive effect upon state revenues and public welfare and permitted a curtailment in line with market demand we should have had definite action long before this.

Governor Murray and the three-judge federal court sitting in Oklahoma had no difficulty in recognizing that production in excess of market demand is the real issue and that it can be met only by dealing with the situation in that light.

Texas and the oil industry at large are being bedeviled by doubt and indecision simply because there is not enough courage to face the facts.


Where Circumstances Demand
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Refining of Crude Oils in Germany

From 55 to 69 Per Cent Gasoline Obtained by Direct Cracking from Nienhagen and Edessa-Berghopen Crudes

By E. F. Nelson and Gustav Egloff
Universal Oil Products Co.

Direct cracking of two German crude oils by a method developed by Universal Oil Products Co. technologists produced 55 per cent of 392° F. endpoint gasoline in one case, and 68.8 per cent of 369° F. endpoint gasoline in the other, the gasolines having respectively 74 and 73 octane number.

The crudes upon which the tests were run were respectively from the Nienhagen Field in Hanover and from the Edessa-Berghopen Field in Thuringia. The Edessa crude gave the higher yield of gasoline and the 73 octane number, while the Nienhagen sample produced 55 per cent of gasoline of 74 octane number. The crudes were found to yield from 10 to 20 per cent straightrun gasoline by atmospheric distillation.

Tests have proved that with any kind of crude the utmost yield of the best quality gasoline is produced by direct cracking and at very low cost because it is done in a single operation, the atmospheric distillation or "skimming" step being eliminated altogether.

FOREIGN CRUDE OILS

The accompanying article is one of a series appearing exclusively in The Oil and Gas Journal explaining products and yields to be expected in refining crude oils in foreign and domestic fields. Additional analyses of foreign crudes will appear in later issues.

The crudes analyzed are as follows:

August 6, page 20—Egypt.
July 23, page 22—Venezuela.
July 2, page 16—Michigan.
June 18, page 22—Van, Tex.
May 21, page 40—Joiner, Tex.
April 23, page 30—"Unrefinable crude oils."
April 16, page 30—Mid-Continent.
April 16, page 30—Pettus, Tex.
April 16, page 30—Kentucky.
April 2, page 30—West Texas.
March 5, page 88—Oklahoma City.
February 19, page 30—South Texas crudes.
February 12, page 38—Pennsylvania.

The importance of this development is shown by the series of tests, both on a laboratory and commercial scale, which were made on these two European crude oils. The runs on the samples of the two crudes are described as follows:

Cracking Nienhagen Crude

("Nonresiduum" method.)

Cracking runs were made in a commercial unit and in an experimental continuous cracking unit, converting Nienhagen crude oil into high knock rating gasoline. The commercial run was made at the Belgian Cracking Co.'s plant at Langerbrugge. The cracking unit was designed to convert 300 bbls. of oil per day into gasoline.

The unit operated at the rate of 15.1 bbls. of crude oil charge per hour, or 363 bbls. per day, over a test period of 44 hours. The yield showed 55 per cent of 392° F. endpoint gasoline, or 62.5 per cent of 437° F. endpoint gasoline based upon the charge.

The operating conditions were 900° F. and 225 pounds pressure, to produce cracked distillate, gas and coke, operating the unit by the "nonresiduum" method.

Summary of Product Yields
(Based on commercial cracking of crude oil.)

Nienhagen crude (cracked), barrels	667
Pressure distillate, per cent	76
A.P.I. gravity	57.2
Coke, lbs. per barrel	49
Gasoline (392°F. E.P.), per cent	55.0
Gasoline (437°F. E.P.), per cent	62.5

Cracking Nienhagen Crude

("Flash" method.)

In a series of experimental cracking tests, Nienhagen crude oil in its entirety was subjected to cracking by means of the "flash" method of operation.

The products produced in a continuous manner were high knock-rating gasoline, fuel oil and gas direct from the cracking process. The gasolines produced, having an endpoint of 380° F. and an average of 74 octane number, represented 50.7 and 57.4 per cent of the crude oil.

The Nienhagen crude oil analyzed as follows:

Crude Oil

A.P.I. gravity	36.6
Sulphur, per cent	0.5
B.s. and water, per cent	1.5
Water, per cent	1.0
Coke, per cent by weight	4.6
Initial boiling point, °F.	330

A.S.T.M. 100 cc. Distillation

Per cent distilled over	Temp. °F.
5	390
10	384
20	497
30	588
40	640
50	662
60	674
70	680
80	688
90	698
95	718
Endpoint	718
Per cent over at 400°F.	10.0
Per cent over at 410°F.	11.0
Per cent over at 437°F.	13.0
Per cent over at 572°F.	27.0

Cracking

This Nienhagen crude was subjected to cracking by the "flashing" method under the following conditions of pressure and temperature:

Reaction chamber pressure,, lbs. per sq. in.	250	250
Flash chamber pressure, lbs. per sq. in.	52	51
Transfer temperature, °F.	933	949

Yields of products from the above two cracking runs resulted in gasolines of 73 and 75 octane number from the Nienhagen crude, as determined by a 30 series, Ethyl Standard test motor. The percentage yields follow:

	Per cent of crude oil	
Cracked gasoline	50.7	57.4
Flashed residue	43.8	34.1
Gas and loss	5.5	8.5
Gas (cu. ft. per bbl. charge)	340	542

Cracked Gasolines

The cracked gasolines representing 50.7 and 57.4 per cent of Nienhagen crude were analyzed and distilled by the A.S.T.M. 100 cc. distillation test to give the following results:

A.P.I. gravity	61.8	60.5
Sulphur, per cent	0.09	0.10
Initial Boiling point, °F.	94	97

Per cent distilled over	Temperature °F.	
5	128	128
10	145	150
20	179	179
50	260	252
90	351	336
Endpoint	378	380
Per cent at 212°F.	31.0	30.5
Per cent at 302°F.	72.5	77.5
Octane number	73	75

Flashed Residues

The residues obtained by the "flashing" method of cracking represented 43.8 and 34.1 per cent of Nienhagen crude. Analyses of these residues are shown in the table:

A.P.I. gravity	12.8	3.7
Flash (Cleveland open cup) °F.	250	255
Fire (Cleveland open cup) °F.	355	375
Flash (Pensky-Martens) °F.	210	205
Viscosity furol (sec.) at 122°F.	108	485
Cold test, °F.	40	55
B.s. and water, per cent	1.0	0.6
Initial boiling point, °F.	456	430
Per cent over at 572°F.	6.5	7.5

The 3.7° A.P.I. gravity residue from the cracking of Nienhagen crude was reduced by steam to produce two grades of asphalt of 30/40 and 90/110 penetrations, respectively. The residuum was found to yield 69.9 per cent by volume of 30/40 penetration asphalt and 75.9 per cent by volume of the other type product, yields which represent 23.9 and 25.9 per cent, respectively, based on the original Nienhagen crude. The asphalts analyzed as follows:

	Asphalt 30/40	Asphalt 90/100
Specific gravity at 77°F.	1.076	1.073
Melting point (ball-ring) °F.	132	114
Penetration at 77°F.	33	95
Penetration at 32°F.	7	17
Penetration at 115°F.	220	*
Flash (Cleveland open cup) °F.	540	495
Ductility at 77°F., cms.	41	123
Volatility at 325°F. for 5 hrs., per cent	.04	.06
Penetration after volatile test at 77°F.	28	71
Loss in penetration, per cent	15.1	25.3
Solubility in carbon disulphide, per cent	99.4	99.5
Solubility in carbon tetrachloride, per cent	97.6	98.1

*Too soft.

Edessa Crude Oil

A similar series of experimental cracking tests was made on Edessa crude oil, which showed the following analyses:

A.P.I. gravity	34.5
Viscosity (furol at 77°F.) sec.	12
Cold test, °F.	15
Sulphur, per cent	0.3
B.s. and water	0.4
Coke, per cent by weight	3.0
Initial boiling point, °F.	140

A.S.T.M. 100 cc. Distillation

Per cent distilled over	Temp. °F.
5	190
10	248
20	346
30	440
40	528
50	607
60	672
70	698
80	712
90	724
95	738
Endpoint	740
Per cent over at 410°F.	27.0
Per cent over at 437°F.	29.5
Per cent over at 572°F.	45.0

The above crude oil, distilled under atmospheric pressure, produced straightrun gasolines of 350 and 370° F. endpoint, and topped crude. The yields from this distillation are shown below:

	Endpoint gasolines 350°	370°
Gasoline, per cent	13.7	21.6
Topped crude, per cent	80.6	77.5
Loss, per cent	0.7	0.9

The straightrun gasolines showed octane numbers of 49 and 46, respectively, and analyzed as follows:

	Endpoint gasolines 350°	370°
A.P.I. gravity	64.3	61.6
Sulphur, per cent	0.03	....
Initial boiling point, °F.	114	114

A.S.T.M. 100 cc. Distillation

Per cent distilled over	Temperature °F.	
10	160	174
20	180	196
50	226	246
90	295	322
Per cent bottoms	1.0	1.0
Octane number	49	46

The topped crude left after removing the 370° F. endpoint gasoline represented 77.5 per cent of the original Edessa oil and had the following characteristics:

Topped Edessa Crude

A.P.I. gravity	27.9
Flash (Pensky-Martens) °F.	135
Sulphur, per cent	0.3
B.s. and water, per cent	0.6
Initial boiling point, °F.	400

A.S.T.M. 100 cc. Distillation

Per cent distilled over	Temp. °F.
10	465
20	520
30	588
40	644
50	687
60	704
70	720
80	732
Per cent over	96.0
Per cent over at 437°F.	5.0
Per cent over at 572°F.	27.5
Per cent coke by weight	4.3

Cracking Edessa Crude Oil

("Flash" method.)

The Edessa crude oil was subjected to cracking by the "flashing" method under 350 pounds pressure with a transfer temperature of 950° F. Pressure in the flash chamber was 52 pounds per square inch. Yields of products from the cracking operation were as follows:

Cracked gasoline, per cent	68.8
Flash residue, per cent	20.7
Gas and loss, per cent	10.5
Gas (cu. ft. per bbl.)	471

The cracked gasoline, representing 68.8 per cent of the Edessa crude oil, showed an octane number of 73 and analyzed as shown in the table:

A.P.I. gravity	62.6
Sulphur, per cent	0.01
Initial boiling point, °F.	90

A.S.T.M. 100 cc. Distillation

Per cent distilled over	Temp. °F.
5	120
10	137
20	168
50	236
90	332
Endpoint	369
Octane number	73

The flashed residue obtained from the cracking of Edessa crude oil represented 20.7 per cent of the crude and showed the following characteristics:

A.P.I. gravity	—1.5
Flash (Cleveland open cup) °F.	220
Fire (Cleveland open cup) °F.	290
Flash (Pensky-Martens) °F.	190
Viscosity (furol at 212°F.) sec.	61
B.s. and water, per cent	1.0
Initial boiling point, °F.	437
Per cent over at 572°F.	7.0

Summary

1. Nienhagen crude oil was commercially cracked into 55 per cent of 392° F. end point gasoline.

2. Nienhagen crude oil was experimentally cracked into 57.4 per cent of 380° F. end point gasoline having a 74 octane number.

3. Edessa crude oil was experimentally cracked into 68.8 per cent of 369° F. endpoint gasoline having a 73 octane number.

LEARN TAX EVASION FACTS

CHICAGO, Aug. 31.—Governor Emmerson announced today he will appoint a fact-finding commission to investigate gasoline tax evasion in Illinois. State Auditor Oscar Nelson has been directed to conduct audit and tabulation of records of oil distributors, transportation companies and the motor fuel tax division of state finance department.

This action was recommended by Garrett D. Kinney, director state department of finance. Mr. Kinney asks that the fact-finding commission be composed of a representative of the gasoline tax evasion committee, a representative of department of finance and some outstanding citizen.

Let's call it "cracked" gasoline instead of "anti-knock" gasoline

Cracked gasoline is anti-knock but the public doesn't know it—even jobbers and dealers don't always know it

Refiners ought to call their cracked gasoline by its real name and brag about it—not mask it

If it's Dubbs cracked gasoline it's well worth bragging about

The motorist will brag about Dubbs cracked gasoline, too, after he tries it

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

Size of Oil Strings and Initial Output

Records of Many Deep Producers Prove Size of Casing Is Important Factor in Controlling Production

By R. W. Brauchli*

There are comparatively few subjects in petroleum engineering which have received so little public attention as has the influence of the size of casing on the initial oil flow. The reason for this lies unquestionably in the fact that in a majority of flush fields this influence is covered up by a number of factors, such as lateral changes in sands, changing conditions in the reservoir as the wells are being produced, etc. However, in the North Wilcox area of the Oklahoma City Field conditions prevailed during the early period of development which made possible a study of these relations. These conditions are as follows:

1. Due to the rigid proration program existing during the development of this area a majority of the wells were allowed upon completion to flow only eight hours during the first two months, and afterward at the rate of 2 per cent of their potential, as determined by a four-hour gauge; that is, a well producing 4,000 bbls. in four hours would have had a potential of six times 4,000, or 24,000 bbls., and a daily allowable production of 480 bbls. In this way the conditions in the reservoir changed comparatively slowly during the period while most of the wells were being completed.

Use 6⅝ and 7-inch Casing

2. The 6⅝ and 7-inch casing, which has been used almost exclusively, have both been in use ever since development of the Wilcox area began, so that changes in the reservoir conditions would have affected in the same way the average initial production of wells equipped with 6⅝-inch casing and of those equipped with 7-inch casing. As shown by Tables 1 and 2, the average well brought in through a 7-inch casing came in on or about February 26, 1931, while the average well completed through the 6⅝-inch came in on or about March 6, 1931.

3. It is easily possible to determine in each well the thickness of the Wilcox sand to within a few feet.

4. The Wilcox sand is a very uniform oil sand and shows comparatively small lateral changes over short distances.

5. The wells equipped with the two predominant sizes of casing are scattered all over the field so that what lateral changes in sand conditions there are can be ignored, provided a large number of wells are taken into consideration.

6. Information has been available on a sufficient number of wells to correct mistakes caused by irregularities of the individual wells.

7. The wells are over a mile deep and produce between 1,000 and 3,000 bbls. per hour, which is an extremely large amount of oil. Therefore the role played by the size of casing is comparatively great.

8. The gas-oil ratio in all the wells compared in this paper is approximately the same, which means an additional similarity between the various wells.

The casing sizes most commonly used in the Wilcox area of the Oklahoma City Field are either 6⅝-inch outside diameter 26-pound (inside diameter 5.855 inches) or 7-inch outside diameter 24-pound (inside diameter 6.336 inches). In a few instances 9⅝-inch (inside diameter 8.835 inches) casing was used, while several wells were equipped with 4½-inch (inside diameter 4.082 inches) casing.

Sand Thickness

It is obvious, that for comparing the influence of size of casing on the initial production of wells it is generally impossible to use the hourly production alone, without any reference to sand thickness. For, other conditions being equal, the production will vary approximately with the thickness of the sand. In order to arrive at a proper measuring unit, the hourly production has therefore been divided by the thickness of the sand body in feet (Tables 1-6, Column 6). The size of wells is thus expressed in barrels of oil produced per hour per foot of sand, or in barrels produced per hour-foot. These volumes are the ones which have been compared for the various wells. It would, however, be permissible to compare directly the average hourly production, if a sufficient number of wells were taken into consideration. The average hourly production, for example, in Tables 1 and 2, bear the same relation to each other as do the average hour-foot productions in these tables. This is so because due to the great number of wells used, the average thickness of the sand is about the same in both tables.

In computing Tables 1 to 4 care was taken to include in each table wells producing under similar conditions only. No wells located too close to the water line or too high on structure were included. The wells in Tables 1 and 2 are all located in Sections 3 and 10-11n-3w, and in Section 34-12n-3w, and those in Tables 3 and 4 in the north three-quarters of the W half W half, Section 2-11n-3w,

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BUREAU OF MINES REPORT FOR JULY SHOWS LARGE DROP IN CRUDE STOCKS

WASHINGTON, D. C., Sept. 1.—The monthly petroleum statement of the Bureau of Mines, issued today, shows the production of crude petroleum in the United States during July, 1931, amounted to 77,961,000 bbls., a daily average of 2,515,000 bbls. This represents an increase over the daily average of the previous month of 11,000 bbls. and is 46,000 bbls. above the average output of July a year ago

The chief cause of the increased output in July was the rapid development of the East Texas Field; in fact, with the exception of the Kettleman Hills Field of California and the Mount Pleasant Field in Michigan, no other producing district reported an increase in output in July. The daily average production in the East Texas Field in July was 519,000 bbls. as compared with 355,000 bbls. daily in June. The daily average output for the State of Texas in July amounted to 1,092,000 bbls., which marks the first time that any state has exceeded the 1,000,000-bbl. mark. Production in Oklahoma showed a material decline as nearly all the fields curtailed operations. During July only 599 oil wells were completed, of which 407 were in the East Texas district. This represents the lowest point reached in field work in many years.

The gain in crude output was more than compensated by increased demand by refiners and stocks continued to be drawn on. The decline in stocks east of California totaled approximately 1,500,000 bbls. That in light crude in California amounted to about 400,000 bbls., while that in heavy crude stocks in California amounted to almost 1,000,000 bbls.

Stocks of all oils on July 31 amounted to 649,205,000 bbls., a decline from the previous month of 3,415,000 bbls. The major portion of this withdrawal occurred in crude stocks, since the gain in fuel stocks at refineries almost compensated for the decrease in motor fuel stocks.

Refined products: Daily average runs to stills of crude petroleum in July amounted to 2,573,000 bbls., a gain of 32,000 bbls. over the daily average in June and 36,000 bbls. above that of a year ago.

The daily average production of motor fuel showed a slight increase over June; daily average imports of motor fuel showed a gain of 53 per cent. The daily indicated domestic demand for motor fuel amounted to 1,273,000 bbls., a slight decrease from the previous month but an increase over a year ago of 3.2 per cent.

Stocks of motor fuel continued to fall off rapidly, the total of 40,332,000 bbls. on hand July 31 being nearly 4,000,000 bbls. below the total on hand June 30. The July stocks represent 28 days' supply as compared with 32 days' supply on hand a month ago and 32 days' supply on hand a year ago.

The refinery data of this report were compiled from schedules of 360 refineries, with an aggregate daily recorded crude-oil capacity of 3,789,620 bbls., covering, as far as the bureau is able to determine, all operations during July, 1931. These refineries operated during July at 68 per cent of their recorded capacity, given above, as compared with 352 refineries operating at 67 per cent of their capacity in June.

MAGNETIC STORM

The Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey report a moderate magnetic storm started at 1 p. m. (C.S.T.) on August 19 and ended at 8 a. m. (C.S.T.) August 26. The telegrams are as follows:

"Storm began twenty-fourth. Nineteen. Moderate."

"Storm ended twenty-sixth. Fourteen."

Late Fields

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Sept. 1.—Proration umpire's gauge on John F. Camp's No. 1 Sure Denman, 1 mile southwest of Darst Creek Field in Guadalupe County, taken Saturday, was at the rate of 6,000 bbls. daily through 2-inch gate valve one-half open. Well is pinched to 40 bbls. per hour. Oil is 32.5 gravity and several degrees different from Darst Creek Field. Gas also is a different quality leading to the conclusion it is a separate pool.

GULF COAST

HOUSTON, Tex., Sept. 1.—Cullen & West and Gulf Production Co.'s No. 2-A Lockwood and Sharp has been completed as the fifth consecutive producer in the

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High Spots in Field News

SOUTHWEST TEXAS

Darst Creek extension producer rated 6,000 bbls. through 2-inch gate valve one-half open. Oil is 32.5 gravity.

NORTH LOUISIANA

Drilling increases in North Louisiana. Haynesville to continue operating. Zwolle most active area in division.

CALIFORNIA

Excess production at Playa del Rey disturbing. State's settled production is in excess of market requirements.

OKLAHOMA

New allowables for Greater Seminole. Good well in Tatums area. Talk of dividing the Oklahoma City Field into zones.

GULF COAST

Brazoria County wildcat shows oil. Interest centered on Manvel geophysical dome prospect. Possible new Refugio area.

WEST TEXAS

New deep test 9 miles southeast of Big Lake Pool. Ward County extension may join Shipley and the Texas Pacific Pools.

KANSAS

Ritz-Canton may produce 10 per cent. Public Service Commission removes bar when Phillips company posts $1 top price.

ROCKY MOUNTAIN AREA

Reiter-Foster well in Greasewood Dome, Weld County, Colorado, makes 699 bbls. of high gravity oil in 12 hours and may open major field.

EAST TEXAS

Fifty-six completions during week and 98 locations, a total of 200 locations since martial law began. Total completions September 1 was 1,760. Storage reduced to 500,000 bbls. Estimated shutdown has kept 11,000,000 bbls. off the market, either unproduced or stored.

Fifty-six Completions in East Texas

Ninety-eight Locations Made During Week, or 200 Since Martial Law Began. Storage in District Down to 500,000 Bbls.

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 31.—East Texas started its third week under martial law shutdown, awaiting the new proration order from Austin. If this order is disobeyed, national guard troops are likely to be retained in the fields indefinitely to force the companies and operators to abide by the order. The new law gives the Railroad Commission authority to call upon the attorney general's department and other state departments for assistance in enforcing its orders, consequently the national guard may be retained in the fields to see that such orders are enforced.

It is known that several independent operators and one large company are preparing injunction suits to file immediately after the new order is issued, but they may find themselves estopped again by martial law in the event they carry out their reported intentions.

Conclusive proof that the complete shutdown has been of great value to operators in the field is cited by the producers and some of the independent refiners themselves. Fuel oil, which some of the small refiners found to be a drug on their hands, and which they had tried to give away before the shutdown was enacted, giving some of it to the highway department to oil roads, has now jumped to 75 cents per barrel and more, due to the fact that there is a great demand for fuel oil for drilling purposes, and very little of it for sale.

Other operators who had pipe line oil in their lease storage have also been getting a good price for it from those who had to have fuel for drilling their wells started before martial law was clapped upon the district, or who have started tests since it was put into effect. Any kind of oil in East Texas is now worth much more than the 10 cents it was bringing up to August 17, and with over 700,000 bbls. of trunk line capacity out of the district, 350,000 bbls. of tank car capacity and 75,000 bbls. refinery capacity in the district, competition should be keen enough to keep the 40-gravity sweet oil to the fair price it merits.

Fifty-Six Completions

Ninety-eight locations were reported this week, and 56 completions, making over 200 locations staked since martial law went into effect, showing that the companies are anxious to drill to the pay, complete more wells and have them ready for gauging. The week's decline in completions was due to many of the tests having been shut down by lack of fuel, either gas or oil, with which to complete them. There were 20 reported in the Bateman area, 26 in the Lathrop area, Gregg County, and 7 in the Gladewater area with 3 wildcats having been abandoned. There were none completed in the Joiner area.

There has been no way of making positive check on the daily amount of pipe line runs from the district during the past 10 days, but it is estimated by some of those who check such oil movements that around 300,000 bbls. per day has been transported by major pipe lines from steel storage in the district, during that time, cutting down the estimated 3,500,000 bbls. in storage August 17, to around 500,000 bbls. at the present time, some tank car shipments having been made out of steel storage also, although tank car shipments have fallen off to practically nothing, very few tankers moving out during the past week. The only two refineries in operation have had to rely on the oil they had in storage up to August 17 when marial law was put into effect. Rather than pay more than 70 cents per barrel for oil in the field the other small refiners have shut down their plants.

Pressures Bolstered

Pressures in the field have been bolstered to certain definite extents in some wells, while it is believed that the entire field will be greatly benefited by increased pressure as a result of the shut down. Four wells on the eastern side of the Joiner Pool were proved to be benefited when they started flowing and had to be shut in after having been on the pump for some time, one of them refusing to flow when it was completed, put on the pump, and in that condition when the shutdown order was issued. This well was one of the four which started to flow several days after all the wells in the field were shut in, and in turn had to be shut in. It is believed by many production men that all wells which have been on pump, or practically all of them, will again flow when opened up under proration, and may continue to flow indefinitely as the field is produced at a slower rate, and pressures are evenly distributed over the field. Low pressure areas which were being drained rapidly to the pumping stage under the orgy of drilling and open production will also probably experience a change, and benefit by the complete shut down, and the following curtailment.

Loading rack and refining construction has been checked for the time being, while gathering systems and lateral lines are continued to be laid by the purchasing companies which have trunk lines into the district, or are laying trunk lines into the district, preparing to connect to as many wells as they can, on a competitive basis.

Approximately 61,000,000 bbls. of oil were produced in the East Texas district during its open flow race, but already an estimated 11,200,000 bbls., or more, have been prevented from being thrown on the market or filling storage, within the past two weeks during the complete shut down in the district.

One-third of the troops were sent home this week leaving 709 men and officers still on duty. When the new order is put into effect still further reduction of the number of troops on detail in East Texas will probably be made. Twenty-six deputy supervisors are expected to enter the fields to help with the gauging of the wells, and oversee the carrying out of the Railroad Commission's orders.

COMPLETIONS IN EAST TEXAS

Gregg County

Atlantic-Byrd's No. 3-A Andrews, top sand 2,530 feet, initial production lacking, shut in due to martial law, total depth 3,615 feet. A. Cohen's No. 1 Colored Church, top sand 2,495 feet, initial production 60 bbls. per hour, total depth 3,538 feet. C. M. Becker and others' No. 1 Barrett, top sand 2,410 feet, initial production 10 bbls. per hour, total depth 3,647 feet. Continental Oil Co.'s No. 1 W. T. Todd, top sand 2,530 feet, initial production 130 bbls. in 30 minutes, total depth 3,654 feet. Delaney & Stoddard's No. 1 G. S. and R. S. McKinley, top sand 2,430 feet, initial production 150 bbls. per hour, total depth 3,654 feet. Dillard's No. 2 Jones, top sand 2,417 feet, initial production 64 bbls., total depth 3,618 feet. Empire Gas & Fuel Co.'s No. 2 Muckelroy, top sand 2,525 feet, initial production 130 bbls. per hour, total depth 3,560 feet.

Gulf Production Co.'s No. 2 Alexander, top sand 2,565 feet, initial production 100 bbls. per hour, total depth 3,569 feet. Same company's No. 3 Bozeman, top sand 2,548 feet, initial production 98 bbls., total depth 3,629 feet. Same company's No. 2 Nealy and others, top sand 2,405 feet, initial production 120 bbls., total depth 3,531 feet. Same company's No. 2 Alexander, top sand 2,565 feet, initial production 100 bbls., total depth 3,569 feet.

Hamil & Smith's No. 1 Meyers, top sand 2,447 feet, no gauge on initial production, total depth 3,548 feet. Humble Oil & Refining Co.'s No. 4 J. A. Knowles, top sand 2,530 feet, initial production 100 bbls. per hour, total depth 3,612 feet. Same company's No. 4 Dora Thomas, top sand 2,505 feet, initial production 79 bbls. first hour, total depth 3,611 feet. Magnolia Petroleum Co.'s No. 1 Brawley, top sand 2,415 feet, initial production 780 bbls. per hour, total depth 3,488 feet. Same company's No. 2 Griffin, top sand 2,532 feet, initial production 135 bbls. first 15 minutes, total depth 3,563 feet. Mullendor & Berry's No. 2 Elder, top sand 2,556 feet, initial production 200 bbls. per hour, total depth 3,598 feet. Pace's No. 1 Trip Elder, top sand 2,540 feet, initial production 50 bbls. per hour, total depth 3,560 feet.

Searight and others' No. 1 Blackman, top sand 2,620 feet, initial production 65 bbls. first 50 minutes, total depth 3,691 feet. Stanolind & Simms' No. 4 Pearson, top sand 2,399 feet, initial production 190 bbls. per hour, total depth 3,558 feet. Stanolind & Simms' No. 1 Tuttle, top sand 2,431 feet, initial production 323 bbls. per day, total depth 3,530 feet. Stroube & Stroube's No. 1 Superior, top sand 2,520 feet, initial production 305 bbls. per hour, total depth 3,605 feet.

Yount Lee's No. 3 Benson, top sand 2,400 feet, initial production 100 bbls. per hour, total depth 3,655 feet. Yount Lee's No. 3 Jones, top sand 2,380 feet, initial production 105 bbls. per hour, total depth 3,580 feet. Yount Lee's No. 4 Jones, top sand 2,350 feet, initial production 100 bbls. per hour, total depth 3,583 feet. Yount Lee's No. 1 J. Stephens, top sand 2,371 feet, initial production 500 bbls. per hour, total depth 3,545 feet.

Rusk County

Bill Rowe et al's No. 1 Deason, top sand 2,600 feet, initial production 35 bbls. in 30 minutes, total depth 3,691 feet. Devonian's No. 1 Alford, top sand 2,760 feet, no gauge on initial production, total depth 2,780 feet. Gulf Production Co.'s No. 1 Murphy, top sand 2,720 feet, initial production 60 bbls. per hour, total depth 3,787 feet.

Humble Oil & Refining Co.'s No. 6 Blackwell, top sand 2,650 feet, initial production 120 bbls. per hour, total depth 3,646 feet. Same company's No. 3 Silvey, top sand 2,690 feet, initial production 105 bbls. per hour, total depth 3,688 feet. Same company's No. 7 Thompson, top sand 2,700 feet, initial production 114 bbls. per hour, total depth 3,705 feet. Same company's No. 6 Wooley, top sand 2,700 feet, initial production 83 bbls. per hour, total depth 3,692 feet. Same company's No. A-4 B. F. Laird, top sand 3,565 feet, initial production 84 bbls. per hour, total depth 3,601 feet. Hunt's No. 3 Maxwell, top sand 2,740

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EAST CENTRAL TEXAS WILDCATS

Week Ending August 31

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks:
Riango Oil Co.'s No. 1 J. Lynn, 1,400 ft. from NE line and 7,425 ft. from E line of survey, R. Brown Sur.	Fishing 2,755 ft.
H. B. McConnell et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in S half of 129-ac. tract, M. Main Sur.	Derrick; no record.

ANGELINA COUNTY

R. O. Moore's No. 1 Abney Estate, 50 ft. N of Blk. No. 6, immediately out of city limits of Lufkin	T. D. 1,350 ft.; set 5½-in. csg.; bailed dry.
Pollick Oil Co.'s No. 1 Sessions, 1,250 ft. from N and 1,250 ft. from E line of Jesus De La Garza Sur.	Dry and abandoned 4,000 ft.

BOWIE COUNTY

Tom Bell's No. 1 Merritt, 1,225 ft. from N and 875 ft. from E line of survey, T. S. McKinney Sur.	Shut down 2,650 ft.
Logan and Elliott's No. 1 J. W. Smith, 9,500 ft. S and 2,500 ft. W of NE cor. of survey, Charles Lewis Sur.	Chalk 1,179 ft.
Parkering-Jones et al's No. 1 W. W. Whybark, 200 ft. from S and W of SW cor. of J. A. Dyer Sur.	Shut down 20 ft.
Lee Timberlake et al's No. 2 Julius N. Tidwell, 655 ft. from E and 2,510 ft. from S of survey in L. M. Rice Sur.	Salt water on drill stem test; shut down 3,012 ft.

CHEROKEE COUNTY

Bridges and Candler's No. 1 Berryman, center of Berryman tract, James Dill Sur.	Rigging up.
Denman et al's No. 1 Mrs. Renfroe, 330 ft. N of S line and 330 ft. E of W line of farm, Uriah Moore Sur.	Derrick.
Helen-Clare Oil Co.'s No. 1 Mrs. M. P. Perkins, 1,300 ft. from N and 450 ft. from W of survey, Thomas Stafford Sur.	Rig up.
William A. Stone's No. 1 Blount Decker, 900 ft. E of E line of S. Selman Sur. and 1,200 ft. S of N line of E. M. Decker 406-ac. tract in George Ruddle Sur.	Fishing at 3,100 ft. for drill stem; T. D. 5,474 ft.
Walton Oil Co.'s No. 1 E. Singletary, 250 ft. W and 160 ft. N of NE cor. of M. Lacey Sur. and in Walters Sur. on Singletary 84-ac. tract	T. D. 2,960 ft.; shut down.

DALLAS COUNTY

Paris' No. 1 Wilkinson, 2,787 ft. from NW and 3,241 ft. from SW of John P. Anderson Sur.	T. D. 870 ft.; shut down

DELTA COUNTY

Doyle & Jondeau's No. 1 C. S. Logatt	Rig up.
D. S. Hood's No. 1 J. J. Balser, 185 ft. from S and 580 ft. W of Balser 40-ac. tract in SE cor. T. B. Laddin Sur.	Shut down 1,559 ft.

ELLIS COUNTY

E. M. Roger's No. 1 John Lee Winn, 1,650 ft. from E and 510 ft. from S of Orland	Shut down 1,360 ft.; drill stem in hole.

FREESTONE COUNTY

Raley and Clark's No. 1 McLancaster (Pampier), 150 ft. from E of W line and center of N and S line B. Avant Sur.	Derrick.

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New Deep Test Southeast of Big Lake

Ward County Extension May Join Shipley and T.P. Pools. Northern Loving County Wildcat May Open New Delaware Pool

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 31.—An interesting deep test has been spudded in the center of the southeast quarter of Section 4, Block 7, University lands, approximately 9 miles southeast of the Big Lake Pool, Reagan County, and about three quarters of a mile southwest of the Skelly Pool which is producing but a nominal amount each week. The new test will go to 8,000 feet, or to the deep horizon in which production is found in the Big Lake Field. Carl Cromwell, driller of the first deep well in the Big Lake Field, is to drill this test, his first deep test outside of the field which he helped discover, and in which he drilled the world's first deepest producer, which still stands as one of the world's deepest cable tool tests. One other well in the field has been drilled deeper into production. Cable tools will be used in the new deep test. Fletcher Holt is in charge of drilling.

Ward County Extension

Ward County's latest extension area, between the Shipley and Bennett Pools, was rewarded with another producer this week when Sturm and Simms Oil Co.'s No. 1 Jones in Section 25, Block B-29, came in making around 80 bbls. per day from pay topped at 2,475 feet. At this depth an estimated 1,500,000 feet of gas was struck, blowing the tools up the hole and lodging them. When they were recovered it was discovered that the hole had started filling with oil. It now flows by heads, once every 24 hours, and will be deepened from its present total depth of 2,475 feet where it encountered the gas and oil pay.

The well is almost 2 miles southeast of the Texas Pacific producing area which was opened up several months ago by the Texas Pacific Coal & Oil Co., and which promised the linking of the Shipley Pool and the outpost Bennett Pool. This newest producer practically proves the linking of the Shipley and Texas Pacific Pools.

Bradford's No. 1 Carson in Section 26, Block 5, H.&T.C. Survey, Ward County, completed in July for a gasser, and which has been standing shut down since its completion, is now to furnish gas to the Ozark Chemical Co. which will lay a 3-inch gas line to a salt lake bed near Grand Falls from which the company is to extract sodium sulphate. About 100,000 feet of gas per day will be used by the company. The well tests almost 5,500,000 feet per day.

Pecos Valley Active

Since receiving an outlet the Pecos Valley Pool in Pecos County has become more active with the wells being put back on production after the storage was reduced by pipe line runs through the Messenger line to Ward County. Messenger's No. 1 Butz is one of the latest additions to the pool, the well having been deepened from 1,292 feet after being shut in since December when it encountered its first showing of oil and gas. It has been making around 62 bbls. per day while drilling below 1,320 feet, encountering an increase from 1,309-28 feet.

Lewis and Slagel's No. 1 Henderson in Section 1, Block 57, T.&P. Survey, northern Loving wildcat, has been completed pumping 25 bbls. of oil and 50 bbls. of water daily. Two shots were given the test prior to its completion. Cement set to shut off water, was drilled out to 3,175 feet at which depth the well was completed. This may prove the forerunner of another Delaware sand pool, opening up another production area in Loving County, which may extend over into New Mexico, as this well is near the New Mexico state line. The company is moving in more material for a second test, 1 mile north of the completed test. This second test will be closely watched for a possible extension.

The Shell Petroleum Corp. which purchases all the oil produced in the shallow Toborg-Tippett Pool, Pecos County, has again raised the price of that oil, it being boosted on August 25 from 15 to 25 cents per barrel.

Wichita Falls and Panhandle

Increased prices of crude in this district have stimulated activities, there being 18 locations staked in the district during the week, the greatest number made for several months. The operators are anticipating another increase in the price of crude from the district and are preparing their shutdown wells for opening, and cleaning out old producers preparatory to producing them. The district has been growing gradually stronger in activities during the past few weeks as has the Panhandle, another district which has suffered heavily because of low crude prices, the purchasing companies neglecting it for oil from other districts.

PANHANDLE COMPLETIONS

Gray County

Steckoll and Reigers' No. 1 Short, top sand 2,750 feet, total depth 3,052 feet, initial production 20 bbls. oil and 17,000,000 feet of gas per day.

NORTH TEXAS PRODUCTION
Week Ending August 31, 1931

Panhandle district—	(Bbls.)
Carson County	5,433
Gray County	41,700
Hutchinson County	10,720
Moore County	960
Potter County	none
Wheeler County	255
Total production this week	59,068
Total production last week	57,320
Decrease	1,248

Wichita Falls district—	(Bbls.)
Archer County	11,335
Baylor County	501
Clay County	526
Cooke County	1,350
Foard County	71
Haskell County	25
Jack County	2,106
Montague County	2,846
Throckmorton County	403
Wichita County	16,535
Wilbarger County	12,551
Young County	9,965
Total production this week	58,204
Total production last week	59,690
Decrease	1,486

Ranger district—	(Bbls.)
Brown County	3,261
Callahan County	1,205
Coleman County	2,080
Comanche County	740
Palo Pinto County	374
Eastland County	2,744
Shackelford County	2,096
Stephens County	4,126
Total production this week	16,626
Total production last week	16,781
Decrease	155

WEST TEXAS PRODUCTION
Week Ending August 31, 1931

County—	No. wells	Prod.
Andrews	4	....
Crane	377	15,113
Crockett	51	1,260
Ector	78	7,800
Fisher	11	476
Garza	2	....
Howard-Glasscock	543	28,295
Irion	9	65
Jones	86	1,335
Loving	44	3,150
Mitchell	111	1,815
Pecos	548	74,930
Reagan	355	25,240
Runnels	5	74
Scurry	5	....
Upton	263	4,620
Taylor	3	61
Ward	66	3,082
Winkler	595	39,447
Total production this week		206,762
Total production last week		204,572
Increase		2,190

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending August 31

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
El Paso-Amarillo O. & G. Co.'s No. 1 Champan, 594 ft. S, 1,458 ft. E, Sec. 7, Blk. 3, A.B.&M. Sur.	Drlg. 450 ft.
Empire G. & F. Co.'s No. 1 Poling, 1,320 ft. S and W, Sec. 28, Blk. Y-2, T.T.R.R. Sur.	Drlg. 1,490 ft.; show gas 1,430-38 ft.
Magnolia Pet. Co.'s No. 1 Connell, 330 ft. N and E, SE, Sec. 66, Blk. 4, H.&G.N. Sur.	Rig.

CHILDRESS COUNTY

C. L. Sloan et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 31, H.&G.N. Sur.	Fishing for pipe 2,503 ft.
Downey et al's No. 1 Beasley, SE cor. SW SE, Sec. 95, Blk. 15, H.&G.N. Sur.	Rigging up.

GRAY COUNTY

Anderson et al's No. 2 Vollmert, 330 ft. N and W, SW, Sec. 140, Blk. 3, I.&G.N. Sur.	Rig.
Back & Barber's No. 1 Back, 990 ft. S, 330 ft. W, Sec. 45, Blk. 25, H.&G.N. Sur.	Bldg. rotary rig.
Boyles et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur.	Spudded and S.D.
Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur.	S.D. 1,150 ft.
Humble O. & R. Co.'s No. 1 Hughey, C NE, Sec. 154, Blk. 3, I.&G.N. Sur.	Fishing bit 2,665 ft.; 25,000,000 ft. gas at 2,665 ft.
Parton Holt and Shell Pet. Corp.'s No. 1 Morse, 330 ft. S and E, Sec. 6, Blk. 26, H.&G.N. Sur.	Rig.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W, cor. SE, Sec. 200, Blk. B-2, H.&G.N. Sur.	Drlg. by tools.
Magnolia Pet. Co.'s No. 1 Heaston, NE cor. 8½ NE. Sec. 164, Blk. 3, I.&G.N. Sur.	Rig on ground.
Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur.	S.D. 2,619 ft.
Pulse-Shell Pet. Corp.'s No. 1 Simpson, SE NE, Sec. 140, Blk. 3, I.&G.N. Sur.	T.D. 3,255 ft; top pay 3,220-55 ft; 1,500 ft. oil in hole; shot 140 qts. 3,221-51 ft.; cleaning out.
Saunders et al's No. 2 Sullivan, 823 ft. from W and 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur.	T.D. 3,364 ft; making 40 bbls. oil and some wtr; trying to exhaust wtr.
Sherwood's No. 1 Morse, 990 ft. N, 990 ft. W, NW, Sec. 15, Blk. A-9, H.&G.N. Sur.	Drlg. 1,925 ft.
Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N½ NE, Sec. 15, Blk. A-9, H.&G.N. Sur.	Rig; elevation 2,686 ft.
Tarber's No. 1 Saunders, 330 ft. N and W, Sec. 3, Blk. 1, B.B.&S.F. Sur.	Location.

(Continued on Page 85)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ending August 31

BREWSTER COUNTY

Company, well, farm name, section and block—	Remarks—
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	Shut down 2,900 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south Alpine	Shut down 1,750 ft.

COCHRAN COUNTY

Penn Oil Co.'s No. 1 Myrick, C Labour No. 80 of League 129, Carson County School Lands	Rigging up (standard).

CONCHO COUNTY

Beesley et al's No. 1 Waring Estate, 400 ft. from N and E Sec. 163, T.&N.O. Sur.	Shut down 267 ft.
Betts & Dennis' No. 1 H. E. Woods, 710 ft. from E and 150 ft. from S Sec. 3, H.E.&W.T. Sur.	Shut down 80 ft.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor. G. Emmig Sur. 130, 6 miles W of Paint Rock	Shut down 1,850 ft.

CRANE COUNTY

Penn Oil Co. et al's No. 1 J. B. Tubb, 330 ft. from N and E of SW cor. of S 80 acres of NW cor. Sec. 2, Blk. B-27, P.S.L. Sur.	Location.
Southwest Oil Prod. Co.'s No. 1 Tubbs, 2,310 ft. from NW and SW Sec. 3, Blk. B-27, P.S.L. Sur.	Location.

CROCKETT COUNTY

Doleman & Moore's No. 1 Ferner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and shut down.

CULBERSON COUNTY

Kornrumpf et al's No. 1 Garren, 330 ft. S and W Sec. 15, Blk. 79, Public School Land	Shut down 1,280 ft.

ECTOR COUNTY

Weekly Oil Corp. et al's No. 1 Cowden, 1,980 ft. from N and W Sec. 23, Blk. 43, Twp. 2s, T.&P. Sur.	Location.
H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW Sec. 16, Blk. 46, Twp. 3s, G.M. M.Br.&A. Sur.	Shut down 3,275 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247	Drlg. 1,635 ft.; show oil and gas 1,620-35 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 George, 400 ft. from N and 380 ft. from E, Sec. 200, Blk. 1, B.B.&C. Sur.	Bldg. rig.
The Texas Company's No. 1 B. H. Barnham, 357 ft. from S and 330 ft. from W lines of Sec. 194, Blk. 1, B.B.&C. Sur.	Location.

GAINES COUNTY

Texas Consolidated Oil Co. et al's No. 1 Jones, 2,310 ft. from NE Sec. 4, Blk. A-8, P.S.L. Sur.	Total depth 4,680 ft.

(Continued on Page 85)

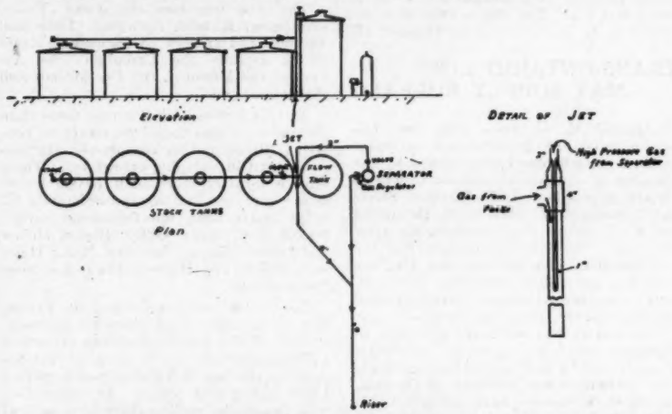
SIMPLE ENGINEERING PRINCIPLES USEFUL

(Continued from Page 25)

finally extinguished by stabbing a water line into the tubing from which the greater portion of oil was escaping. Water was pumped into the tubing through this water line which was held in place by a heavy crane. The Bell & Grady well, in the Mary Van Winkle Survey in Gregg County, caught fire under similar circumstances and could undoubtedly have been extinguished by a similar method before a shot was exploded in an attempt to tear off the christmas tree. Photograph No. 1 shows the condition of the Bell & Grady well before the shot was exploded, and photograph No. 2 shows the condition of the flame after the shot had been exploded. These photographs illustrate very closely the actual condition of the well before and after shooting. With the well in the condition as shown in photograph No. 1, it was possible to work almost as close to the well head as in the Vitek-Eaton well. This well was finally extinguished by tunneling and pumping water and mud through a line welded into the 7-inch casing about 25 feet below the surface of the ground. Almost a month's time was consumed in killing the well by this method. Photograph No. 3 shows a well in the Kilgore area being cleaned through the tubing directly into the sump. Photograph No. 4 was taken about five minutes later. Photograph No. 4 shows this well burning as a direct result of the gas being ignited by boilers, shown in the rear of the picture, in which the fires had been extinguished and the fire boxes cooled. Another disastrous fire was prevented because the fire started before much oil had accumulated in the sump, making it possible for the clean line to be closed. The steel derrick also prevented more damage to the well.

In the town lot area of the East Texas Field, less precaution has been taken in bringing in wells and in locating tank batteries and boilers with the result that a number of dangerous fires have occurred. In this area more precaution is necessary due to the natural fire hazards surrounding the well. Photograph No. 5 shows the present condition of the first town lot completion. This well was flowing about 200 bbls. per day through the tubing. This was a case of tank battery fire originating at the boilers. Photograph No. 6 shows the present condition of another town lot well. A fire starting at the tank battery would destroy a large portion of the city. Note the absence of a fire wall. In contrast to this condition in the town lot area, photograph No. 7 shows a representative tank battery in the field. This battery is located in the center of a 100-acre tract of land, and the capacity of the fire wall surrounding this tank is equal to 10 times the volume of the oil contained in the tank.

The writers believe that a knowledge of and a desire to correct the present dangerous practices that exist in the field is all that is necessary to prevent further loss of life and property.



Gas vent system for tank batteries with jet for removing heavy vapors from top of tanks used in East Texas Field.

EAST CENTRAL TEXAS

(Continued from Page 33)

feet, initial production 210 bbls. per hour, total depth 3,780 feet.

Jackson-Wise-Sneddon's No. 3 Wilson, top sand 2,665 feet, initial production not gauged, total depth 3,620 feet. John Mabee's No. 1 S. Stone, top sand 2,700 feet, initial production not gauged, total depth 3,707 feet. Magnolia Petroleum Co.'s No. 6 Moore, top sand 2,640 feet, initial production 120 bbls. first 15 minutes, total depth 3,683 feet. Penn's No. 1 Brightwell, top sand 2,587 feet, initial production 90 bbls. per hour, total depth 3,650 feet.

Roberts & Walton's No. 1 Christian, top sand 2,655 feet, initial production 260 bbls. per hour, total depth 3,658 feet. Shell Petroleum Corp.'s No. 2 W. P. Moore, top sand 2,675 feet, initial production 175 bbls. per hour, total depth 3,707 feet. Shell Petroleum Corp.'s No. 3 Moore, top sand 2,705 feet, initial production 195 bbls. per hour, total depth 3,600 feet. Stanolind Oil & Gas Co.'s No. 3 J. H. Beall, top sand 2,664 feet, initial production 140 bbls. per hour, total depth 3,665 feet.

Smith County

Pace's No. 1 Wright, top sand 2,705 feet, initial production not gauged, total depth 3,700 feet.

Upshur County

Brennan & Wood's No. 1 Robertson, top sand 2,521 feet, dry and abandoned. Humble Oil & Refining Co.'s No. 5 Edwards, top sand 2,545 feet, initial production 85 bbls. per hour, total depth 3,644 feet. Same company's No. 2 A. O. Phillips, top sand 2,510 feet, total depth 3,682 feet. Magnolia Petroleum Co.'s No. 4 Free, top sand 2,430 feet, initial production 350 bbls. per hour, total depth 3,642 feet.

Mead Brothers and others' No. 1 Wofford, top sand 2,451 feet, dry and abandoned, total depth 3,952 feet. Mudge Oil Co.'s No. 2 Free, top sand 2,590 feet, in'tial production 163 bbls. per hour, total depth 3,708 feet. Pelican's No. 1 Hamilton (formerly McMahon & McCulloch), top sand 2,480 feet, initial production 20 bbls. per hour, total depth 3,762 feet. Roeser & Pendleton's No. 1 E. C. Evers, top sand 2,620 feet, initial production 151 bbls. per hour, total depth 3,719 feet.

COMPLETIONS IN EAST TEXAS

Gregg County

Becker and others' No. 1 J. C. Barrett, top sand 3,608 feet, initial production 240 bbls., total depth 3,647 feet. Tom Cannon and others' No. 1 Rogers, top sand 3,560 feet, initial production 208 bbls., total depth 3,610 feet. Continental Oil Co.'s No. 1 Todd, top sand 3,607 feet, initial production 130 bbls. in 30 minutes. Delaney & Stoddard's No. 1 J. C. McKinley, top sand 3,638 feet, initial production 150 bbls., total depth 3,633 feet. Dillard Drilling Co.'s No. 2 W. C. Jones, top sand 3,619 feet, initial production 150 bbls., total depth 3,652 feet.

East Texas Refining Co.'s No. 1 Ana Christian, top sand 3,624 feet, initial production 154 bbls., total depth 3,640 feet. Falvey and others' No. 1 Free, top sand 3,682 feet, initial production 135 bbls., total depth 3,692 feet. Flemming & Kimal's No. 1 J. Barnes, top sand 3,653 feet, initial production 220 bbls., total depth 3,690 feet.

Gulf Production Co.'s No. 3 Bozeman, top sand 3,597 feet, initial production 98 bbls. per hour through three-fourths inch choke, total depth 3,626 feet. Humble Oil & Refining Co.'s No. 1 Boles, top sand 3,543 feet, initial production 233 bbls., total depth 3,567 feet. Magnolia Petroleum Co.'s No. 1 E. A. Brawley, top sand 3,484 feet, initial production 780 bbls., total depth 3,488 feet.

Stanolind and Simms' No. 4 Pirsons, top sand 3,506 feet, initial production 194 bbls. per hour, total depth 3,560 feet. Stanolind and Simms' No. 1 A. J. Tuttle, top sand 3,504 feet, initial production 323 bbls. in 24 hours, total depth 3,530 feet. Stroube & Stroube's No. 1 S. Spurrier, top sand 3,554 feet, initial production 305 bbls. per hour, total depth 3,605 feet. Sun Oil Co.'s No. 2 Haynes, top sand 3,545 feet, initial production 200 bbls., total depth 3,586 feet. W. F. Turner's No. 1 Andrew Jones, top sand 3,598 feet, initial production 95 bbls. per hour through tubing choke, total depth 3,657 feet.

Yount Lee Oil Co.'s No. 1 J. Stephens, top sand 3,525 feet, initial production 500 bbls. per hour, total depth 3,545 feet. Yount Lee Oil Co.'s No. 1 E. M. Whatley, top sand 3,516 feet, initial production 86 bbls. per hour through eleven-sixteenths inch choke, total depth 3,536 feet.

Upshur County

Humble Oil & Refining Co.'s No. 2 A. O. Phillips, top sand 3,650 feet, initial production 150 bbls. in three hours through three-quarters inch tubing choke, total depth 3,682 feet. Magnolia Petroleum Co.'s No. 5 J. W. Free, top sand 3,634 feet, initial production 400 bbls. per hour through 1-inch tubing choke, total depth 3,662 feet. Mudge Oil Co.'s No. 2 J. W. Free, top sand 3,696 feet, initial production 153 bbls. per hour, total depth 3,708 feet.

W. H. Peckham's No. 1 J. B. Webb, top sand 3,719 feet, initial production 400 bbls., total depth 3,735 feet. Roeser & Pendleton's No. 1 E. C. Evers, top sand 3,695 feet, initial production 240 bbls. per hour through tubing, total depth 3,719 feet.

Tank battery installation in town lot area of East Texas Field.

Bell & Graddy's No. 1 George, 18 hours after catching fire.

Pipe Line Construction News

KANSAS PIPE LINE CO. TO BUILD TO ATCHISON

TOPEKA, Kans., Aug. 31.—The Kansas Pipe Line & Gas Co. has filed an application with the Kansas Public Service Commission for authority to build a pipe line from near Topeka to Atchison, serving numerous small towns on the way.

The Kansas Power & Light Co. operates the Atchison gas distribution system. The Kansas Pipe Line & Gas Co. is owned by the Kansas Power & Light Co. Both companies are subsidiaries of the North American Co., one of the Studebaker group of utilities.

The Kansas Pipe Line & Gas Co. has large gas producing properties in McPherson County and also in Barber County. It now supplies 70 Kansas cities with gas at a top rate of $1 for the first 1,000 feet and 50 cents per 1,000 feet for all additional gas up to 20,000 feet a month. Then the price is 40 cents per 1,000 feet. Its territory has been exclusively in central Kansas and it now is extending its line into northeastern Kansas in order to increase its distribution.

The Cities Service pipe line now furnishes the gas at Atchison. The company announced that as soon as the Kansas Pipe Line & Gas Co. could build its own line to Atchison it would stop the purchase of gas from the Cities Service subsidiary and use its own gas.

The Kansas Pipe Line & Gas Co. has pipe lines running to Salina, Abilene, Junction City, Manhattan and Wamego. Also it has a pipe line running northeastward from Abilene, and its own line crosses the Stanolind pipe line northeast of Clay Center. For more than a year the Kansas Pipe Line & Gas Co. has had a lease on the oil lines in Washington County and uses that section for gas facilities in north central Kansas.

The new lease begins in Nebraska and extends into Missouri. For the present at least, the company has no intention of supplying any communities in Nebraska from this pipe line, and it does not propose to extend its operations east of Perry, 18 miles east of Topeka, although it has the lease on the pipe line through Douglas, Johnson and Miami Counties.

Near Grantville, 5 miles northeast of Topeka, the Kansas Pipe Line & Gas Co. will tap the Stanolind line and build its own line to carry gas to Meriden, Valley Falls, Nortonville and Atchison, where the Kansas Power & Light Co. owns the distributing system.

Albert M. Patten, president of the company, said that as additional gas became available the operations of the company would be extended by the use of the Stanolind pipe line into Nebraska and possibly into Missouri and to other towns in Kansas.

Towns which the company proposes to serve by its new pipe line and in which it already holds franchises, Mr. Patten said, include: Narka, Mahaska, Haddam, Morrowville, Barnes, Cleburne, Westmoreland, Wheaton, Onago, Emmett, Baxx Blaine, Delia, Rossville, Silver Lake, Hoyt, Granville, Perry, Lecompton, Meriden, Rock Creek, Ozawkie, Oskaloosa, McLouth, Valley Falls and Nortonville.

MOUNT POSO FIELD LINE

LOS ANGELES, Calif., Aug. 29.—Petroleum Supply Co. has completed the construction of 11 miles of 6-inch pipe line for the Golden Bear Oil Co. from the company's property in the Poso district to Seguro Junction, the loading terminal. The Petroleum Supply also is erecting 60,000 bbls. of storage for the company, together with a 5-car loading terminal at the Junction.

ENLARGING FACILITIES IN EAST TEXAS AREA

FORT WORTH, Tex., Aug. 31.—The Shell Pipe Line Co. is laying 8 miles of 8-inch line from the Kilgore to the Lathrop area in Gregg County to serve as a lateral connecting line to its main 10-inch line to the Gulf Coast.

The Texas-Empire Pipe Line Co. will construct a pumping station at Camps Switch, Gregg County, on the northern end of its 12-inch line to the Gulf Coast.

The Texas Company has four 80,000-bbl. tanks at Munroe Station in the Gladewater area and eight 80,000-bbl. tanks and four 10,000-bbl. tanks near Friars Switch in the Joiner area, Rusk County. It also has one 55,000-bbl. all welded tank at Reba Station, between Jacksonville and Henderson, and is enlarging its electric pumping station at that place, installing nine 100-horsepower engines for temporary duty at Douglas Station in Nacogdoches County. The station site is being cleared for several Diesel engines at this station.

Gathering lines are being constructed through the producing area in Gregg, Rusk, Smith and Upshur Counties by the pipe line companies which have or are building main trunk lines into the district from the Gulf Coast.

The Texas Company, which has constructed grade and planned on erecting a 30-car loading rack at Gladewater before martial law was declared and the East Texas district was entirely shut in, has temporarily abandoned that project and will probably not complete the work after the field is again opened to curtailed production.

MUNCIE GAS LINE

The Ohio Fuel Gas Co., subsidiary of the Columbia Gas & Electric Co., is constructing a 100-mile 20-inch natural gas line from Muncie, Ind., to connect with the Panhandle-Eastern Pipe Line Co. system at the Indiana-Illinois state line. A branch will be laid to Indianapolis if a deal to supply the city can be arranged. Columbia Gas & Electric Co.'s construction forces are laying the pipe and river crossings while Kagay & Mann of Findlay, Ohio, are ditching and backfilling. Hope Engineering Co. is in charge of inspection.

MEMPHIS-JACKSON LINE READY OCTOBER 15

The new pipe line of Memphis Natural Gas Co., extending from Memphis to Jackson, Tenn., a distance of 100 miles, is rapidly nearing completion, 82 per cent of the main line having been laid, with work well under way on the Brownsville lateral. Work on the Humboldt lateral will start shortly. The work of increasing the capicity of the Guthrie, La., compressor station was well on its way to completion, while the new compressor station outside of Memphis is now ready for the installation of equipment and pipe. The entire system is expected to be in operation by October 15.

TRANS-ONTARIO LINE MAY SUPPLY BUFFALO

CHATHAM, Ontario, Aug. 29.—Important pipe line developments in southwestern Ontario are foreshadowed by the granting of a provincial charter to Trans-Ontario Pipe Lines, Ltd. Edmund Sweet and Archibald M. Harley of Brantford and S. B. Severson of Buffalo, all associated with the Southern Ontario Gas Co. and the Dominion Natural Gas Co., are named as provisional directors. The company is capitalized for $5,000,000 in $100 par shares with office at Toronto.

The charter empowers the company to transport oil, gas, gasoline, petroleum products and by-products within, through, into and out of the province of Ontario. Details of the project have not been made public but it is understood that the company plans to link natural gas pipe lines now converging on Chicago from western fields with Buffalo. The project involves a line from Chicago to Sarnia, Ontario, and thence across southwestern Ontario to Buffalo, and linking with the existing transmission lines and distribution systems of the Southern Ontario Gas Co. and the Dominion Natural Gas Co. in various parts of southwestern Ontario.

ALBERTA PIPE LINE PROJECT

CHATHAM, Ontario, Aug. 29.—It is reported that Imperial Oil, Ltd., will build a short pipe line to connect its pipe line on the Alberta end of the Red Coulee Field with the Ohio Oil Co. line in Montana.

MAIN LINE PUMPING UNIT

View of interior of Saginaw station of Gulf Pipe Line Co.

TEXAS-CHICAGO LINE PUT INTO OPERATION

Completion of the 24-inch natural gas pipe line connecting Chicago and the Great Lakes region with the gas fields of the Texas Panhandle was announced September 1 by the Continental Construction Corp. This huge project, in which Cities Service, the Insull interests, Standard of New Jersey, The Texas Corporation, Southwestern Development Co., and Columbian Carbon Co. are jointly interested, will make available 175,000,000 feet of natural gas daily for industrial, commercial and domestic uses.

The line traverses six states, Texas, Oklahoma, Kansas, Nebraska, Iowa and Illinois, and crosses 13 important rivers which include the Canadian, the Arkansas, the Missouri, the Des Moines and the Mississippi.

As this line stretches across more than 900 miles, it was found necessary to construct 10 main line compressor stations to be used in pumping operations. These have a total of more than 70,000 horsepower and are located approximately 95 miles apart near the following towns: Fritch, Tex.; Gray, Okla.; Bloom, Heizer and Glasco, Kans.; Beatrice, Neb.; Hastings, Truro and Harper, Iowa; and near Geneseo, Ill.

The initial station located at Fritch, Tex., is the largest gas driven compressor station in the world consisting of twelve 1,250 horsepower units, each of the remaining stations being equipped with five 1,250 horsepower units. In connection with the initial station there is a natural gasoline absorption plant with a capacity of 72,000 gallons per day.

A complete telephone system, making communication possible from all points along the line, essential to the operation of such a system, consists of 1,287 miles of line using 5,014 miles of wire. In obtaining right of way for the line, it was necessary to cross 2,593 tracts of land and obtain the signatures of approximately 8,000 people residing in almost every state in the union and in several foreign countries.

Record-breaking progress has been made on the construction of the line which was started only 13 months ago and many new engineering features have been incorporated. In the preparation of materials used and in actual construction it is estimated that employment has been furnished 10,000 people for one year.

In the opinion of eminent engineers in the East, this is the most important construction project since the transcontinental railroads were built. Backed by gas reserves conservatively estimated at 7,000,000,000,000 feet, engineers predict that natural gas will be available for use in the Great Lakes region for many years to come. The new line was placed in operation September 1.

KANSAS CONTRACT

J. F. Pritchard & Co., Kansas City, Mo., was awarded contract for laying 12 miles of main line and about 3 or 4 miles of lateral line for the Skelly Oil Co. from Canton, Kans., to 4 miles beyond Elyria, Kans. The main line will be a welded one whereas the gathering line will be screwed. The job is to be finished about 15 days after date of contract.

PIPE CONTRACTS PLACED

PITTSBURGH, Pa., Aug. 31.—The Stanolind Pipe Line Co.'s inquiry for pipe line involving 350 miles, in sizes 12¾, 10¾ and 8⅝-inch, making about 36,000 tons, is expected to be acted on very shortly. The Lycoming Natural Gas Co.'s line in New York State may also be closed shortly, involving 95 miles of 10¾-inch, about 15,000 tons.

Is Any BID "LOW" to which must be added the cost of Constant Upkeep?

Did you ever own an automobile which seemed to cost more to "keep up" than you paid for it?

The cost of a poorly laid, leaky Pipe Line, like the cheap car, is its original purchase price—PLUS constant expensive upkeep—and worry.

With any bid, Truman-Smith is glad to submit scores of prominent names of Mid-Continent patrons, whose combined expressions of satisfaction are powerful evidence of the perfection attained in EVERY Truman-Smith line.

"A Truman-Smith Bid is the Most Economical in the Long Run"

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In country like this, you want your Pipe Line to "stay put"! The tougher the country, the greater the advantage of utilizing Truman-Smith equipment, personnel and EXPERIENCE. For a Truman-Smith laid line is there TO STAY—without further thought or worry on your part.

The TRUMAN-SMITH CONST. Co.

EL DORADO, KANSAS.

New Allowables for Greater Seminole

Field Curtailed to 43,990 Bbls. per Day. Oklahoma Production Continues Its Decline. Good Well in Tatums

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Oklahoma's oil production averaged approximately 265,400 bbls. a day for the week ending August 29. The daily average for the week shows a decline of approximately 4,000 bbls. a day from the previous week's gauges. It has been a quiet week in the State, the producers waiting for the purchasers to post $1 a barrel for crude oil, which is the figure Governor Murray has set before he will lift the executive shutdown order. Some offers of premiums have been reported in the Oklahoma City Field for storage oil on the leases but the operators have refused these offers to date.

As far as could be learned, the Phillips Petroleum Co., which has a posted price of $1 a barrel for oil has not been able to move oil from the Oklahoma City Field, where it has a large potential production. Until the major oil companies post the same figure, the governor stated he would not permit oil to be produced and purchased from the Oklahoma City Field.

New Allowables for Greater Seminole

A reduction of approximately 20,000 bbls. a day in the production from the Greater Seminole and West Chandler areas was made when the allowable flow from the fields was ordered cut Saturday, August 29, by Cicero I. Murray, in charge of the shutdown in the prorated areas in the State. When the prorated areas in the State were first shut down, Mr. Murray ordered the allowable flow in the Greater Seminole area placed at 62,000 bbls. a day. That was before he had time to study the situation. Since that time he has worked out an allowable, which was announced Saturday, as the result of more detailed study.

In referring to the situation, Mr. Murray said that the exempted wells in the Greater Seminole area are making a quantity of water and after checking the fields he believed the total could be reduced to 42,000 bbls. a day without damaging the wells. It is a reduction from the old allowable flow on each lease in the Greater Seminole area, and the total reductions by leases is approximately 20,000 bbls.

The new allowable was mailed to the oil producers by State Umpire Ray M. Collins. As no letter accompanied the new allowables, it is not known how the new percentages were figured.

Comparing the new allowables with the July allowables, compiled by Ray M. Collins, based on the decline curve agreed upon by the operators with production in the fields and the Oklahoma Corporation Commission, permitting the Greater Seminole areas and the West Chandler Field in Lincoln County to produce 168,767 bbls. a day, the new total under the order issued by Cicero I. Murray shows an allowable of 43,960 bbls. a day for all the prorated fields. The fields had been making approximately 65,000 bbls.

The following table shows the new allowables compared to the former July allowables:

Pools—	July allowables	New allowables
Allen	9,868	3,395
Wanette	6,791	1,500
Carr City	12,278	100
Bowlegs	13,228	4,000
Chandler	1,328	none
Earlsboro	15,319	4,705
East Earlsboro	174	none
Earlsboro Townsite	2,208	800
East Little River	5,047	2,625
Konawa	6,594	1,275
Little River	21,885	6,210
Maud	1,934	570
Mission	7,835	1,380
Sasakwa	2,137	505
Searight	4,080	1,460
Seminole	12,494	3,615
East Seminole	1,449	440
South Earlsboro	4,336	1,030
St. Louis	26,724	8,015
Wewoka	5,975	950
Total	168,767	43,990

During the week Governor Murray stated, while addressing southern Kansas oil men at Oklahoma City, that the governors of Texas, Kansas, New Mexico and Oklahoma were considering a unified plan of proration. He said that the formulation of proration rules by the states for a fair proration and a price commensurate with the investment and labor used was under consideration. He predicted a change in the proration rules that will be fair for the large oil companies and the independent producer.

The Kansas operators came to Oklahoma City to tender their thanks to Governor Murray for taking the lead in shutting down the prorated fields in his State until the price of crude oil reaches $1 a barrel. The governor said he would not lift the shutdown orders until all the major oil companies increase the price of crude oil to $1 a barrel, which price has already been posted by the Phillips Petroleum Co.

Changes in Production

The prorated areas in the State affected by the governor's shutdown order include the following: Tatums Pool in Carter County, in southern Oklahoma, which had a June potential of 54,390 bbls. and was producing an allowable of 5,900 bbls. a day, which was the pipe line outlet. The West Chandler Field, in Lincoln County, had a June potential of 39,117 bbls. a day from 26 wells, and was producing 1,600 bbls. of oil a day at the time it was shut in. The Greater Seminole area including all the fields in the area was making an average of 170,000 bbls. of oil daily. The daily allowable from the Oklahoma City Field for the month of August was 196,000 bbls. The combined one-day potential production of all the wells in the Oklahoma City Field was placed at 2,586,000 bbls. by the Oklahoma Corporation Commission for the month of August. The estimated potential production of the Greater Seminole area was placed at 270,000 bbls. a day. The total potential production of all the fields in the State included in the governor's shutdown order was given as 2,949,507 bbls. of oil for one day.

In the Greater Seminole area where wells that are making water have been exempted from the shut down order, some of the other operators are reported to have opened their wells offsetting wells that are being produced. These producers claim they are pumping the offset wells to prevent drainage to their properties. The amount of oil produced is about the same as the water wells are allowed to make.

Late Developments in the Wilcox

During the last few months practically all the development in the Oklahoma City Field has been in the north Wilcox sand pool, which has yielded large wells averaging approximately 40,000 bbls. a day, and some at the rate of 80,000 bbls. a day on the initial potential gauges of eight hours. By reason of the large potential production over the market demand and transportation facilities in the Oklahoma City Field, it is necessary that producers of oil be required to prorate their production equitably. Some believe the Oklahoma Corporation Commission will issue orders to divide the field in zones, by reason of the peculiar nature of the oil and gas and their presence in the same common source reservoirs beneath the Oklahoma City Field, each of the common sources of supply being subject to a common gas pressure, which, unless one or more of the producers in any of the common source of supply does not close in or restrain the production from their wells, may result in damage to the neighbors. It might cause drainage of inactive properties and some believe that the ultimate recovery would be reduced.

In the event a partial shutdown is required to prevent waste of crude oil it may become necessary to enforce proportional takings from all wells in a common source of supply, to prevent discrimination in favor of one common source of supply as against another.

The gas energy is an important propulsive force to move the oil to the surface, laterally through the casing, and the loss of the gas energy by disproportionate taking in a common pool is believed to be unfair and may constitute a damage to the owners of inactive wells.

The governor has stated that no one purchaser is willing to or able to take all the oil from the Oklahoma City Field and as no one pipe line system is able to transport all of the oil from the several pools in the field, it is believed that all of the oil cannot be taken from any one of the said pools without causing waste or discrimination. It is necessary that the production from the leases be prorated and the market demand equitably divided between the several pools. It is believed the purchasers will be required to prorate their shipments from each lease in the several pools according to the percentages of potential output which may be recommended by the Corporation Commission when the shutdown order is lifted.

The Proposed Unit Plan

Some express the opinion that when the shutdown order is lifted in the Oklahoma City Field the governor intends to change the allowed flow. According to reports the governor may decide to place the field's allowable at 144,641 bbls. a day, under a unit plan. Many believe the unit plan would divide the field into separate zones or pools as there exists four different producing horizons and distinct sources of supply. Before the field was shut in each well in the field was permitted to flow its allowable in four hours.

It is expected the method of producing the wells will be changed under the unit plan, if the field is divided into zones. Under the present system of proration the present allocation of the market demand for oil from the field allows more than half of the daily production to be allocated to a small area known as the Wilcox sand pool, in the north end of the field. Some believe it is discriminating against the other areas which are older and were first drilled, and that it may result in waste and destruction of the recoverable reserves of oil in the older portions of the field.

The Franklin Proposal

The plan submitted last May to the Oklahoma Corporation Commission by Wirt Franklin, may be put into operation when the shutdown order is lifted. The plan divides the Oklahoma City Field into four separate zones and suggests that the Arbuckle lime area be allowed to produce 75 per cent of its potential, which is believed to be approximately 125,000 bbls. a day. The lower Simpson sand to produce 10 per cent of its potential, which was approximately 2,290,000 bbls. per day, the last time potentials were taken. The North Wilcox sand pool,

(Continued on Page 98)

WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No 1 Forbes, SE cor. NW NW, Sec. 12-27-11w	Shut down 1,252 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE, Sec. 14-24-11w	Shut down 5,502 ft.

ATOKA COUNTY

Campbell's No. 1 Baird, NW NE SW, Sec. 31-1-13	Rig.
Edgerton Edwards' No. 2 Rowland, SE NE NW, Sec. 6-1-15	Rig.

BECKHAM COUNTY

Price-McFann's No. 1 Webster, C SW SW, Sec. 34-8-26w	T. D. 2,344 ft.; plugged back to 1,890-1,900 ft.; 1,500,000 ft. gas.
Mid-Continent's No. 1 Schaff, C NE SW, Sec. 22-11-22w	Waiting on cement to set 430 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW, Sec. 17-2-22w	Shut down 2,550 ft.
White et al's No. 1 Green, SW cor., Sec. 34-10-24w	Shut down 3,575 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-16w	Shut down 5,115 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w	Shut down 1,115 ft.

COAL COUNTY

McCraw Oil Co.'s No. 1 Ward, NE SE, Sec. 35-1-8	W.O.C.S. 1,846 ft.
Whitney et al's No. 1 Miller, SE NE, Sec. 10-2-8	Shut down 760 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW, Sec. 3-3-9w	Shut down 1,450 ft.

LE FLORE COUNTY

H. E. Dowd et al's No. 1 Unknown, SE NE, Sec. 17-3-22	Drlg. 975 ft.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW, Sec. 9-24-6w	Shut down 5,850 ft.

GARVIN COUNTY

Malarnee et al's No 1 Phillips, NE SW SE, Sec. 24-2-2w	Shut down 4,830 ft.
Skinner's No. 1 Elrod, SW cor., Sec. 13-2-3	Shut down 1,120 ft.

GREER COUNTY

Dovell et al's No. 1 Capell, NW cor., Sec. 1-7-22w	5,000,000 ft. gas 1,455-65 ft.; T. D. 1,760 ft.
French's No. 1 Murphy, SW NW, Sec. 23-7-21w	Shut down 1,645 ft.

HARPER COUNTY

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW, Sec. 14-26-24w	20,000,000 ft. gas 5,250-5,400 ft.; T. D. 8,539 ft.; shut down; sprayed 50 bbls. gasoline.

HASKELL COUNTY

Bowers Oil & Gas Co.'s No. 1 Black, Kent Townsite, SE SW SW, Sec. 31-8-20	1,000,000 ft. gas 710-50 ft.; T. D. 850 ft.
Ault et al's No. 1 Harrison, CWL SE NE, Sec 14-9-19	Shut down 650 ft.
Ault et al's No. 1 Hall, NW SW SW, Sec. 14-9-19	Shut down 2,000 ft.
Ault et al's No. 1 Hall, SE NW, Sec. 25-9-19	Shut down 200 ft.
Holden's No. 1 Phillips, SE cor., Sec. 3-9-18e	Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW, Sec. 10-9-18e	Shut down 2,337 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW, Sec. 15-5-11	Shut down 1,645 ft.

(Continued on Page 73)

Ritz-Canton May Produce 10 Per Cent

Kansas Public Service Commission Takes Down the Bars When Phillips Petroleum Co. Posts $1 Top Price

By W. A. Spinney
Staff Correspondent, Kansas Fields

Six days after the shutdown order was issued by the Kansas Public Service Commission, closing the Ritz-Canton Pool in McPherson County, the commission announced on August 28, another order permitting the taking of 10 per cent of the potential production from wells in the pool. Several companies with production in the Ritz-Canton Pool, were violating the shutdown order and were producing their wells prior to the issuing of the second order.

The commission announced it would allow purchasing companies to take oil from the pool, ratably, if they would pay a dollar a barrel or more. The order requires the purchasing companies to make application in writing to the commission for permission to buy oil under the new order.

The only company posting a dollar a barrel for crude oil in the State is Phillips Petroleum Co. and the commission has allowed that company to purchase oil ratably from the Ritz-Canton Pool. The order allowing the Phillips Petroleum Co. to purchase 10 per cent of the potential from the Viola lime wells in the field was made to avoid discrimination while the Phillips Petroleum Co. was laying gathering lines. The Phillips Petroleum Co. has permission to take 1,500 bbls. of oil a day from the field at $1 per barrel or more.

Text of the Order

The commission's order allowing the wells to be opened and produced ratably for the sale of oil at a minimum of $1, with the total production of the field not to exceed 20,000 blbs. a day, was as follows:

"Permission is hereby given to all purchasers of crude oil from the said Ritz-Canton Pool, McPherson County, to take ratably from said pool, at the highest posted market price, to-wit, $1 a barrel, for 40 degrees and above gravity and 2-cent differential for crude oil per degree under 40 degrees gravity. The proration umpire in the pool is hereby directed to allow said oil at said posted price, at a total production of not to exceed 20,000 bbls. a day until further notice. No oil shall be run from said pool under this order by said purchasers until the purchasers have given notice in writing to the Public Service Commission of Kansas of the amount to be run. This notice may be by wire or letter.

"Should oil be taken from one section or part of the pool by a purchasing company, in order to protect producers in part or parts of the field where oil is not being run, a record shall be kept by the umpire of each day's run from the pool and descriptions or leases from which oil is run, and as other purchasers connect up in the different parts of the pool allowance shall be made to them in order to equalize production run prior to their connection taken in parts where oil has this allowance to be determined by the umpire acting as agent for the commission.

"Takings shall be delivered upon the basis of the old potential until the new potential now being taken is completed, the gauging of wells interrupted by the shutdown order shall not be continued until said wells have been again on production for more than three days. Until said elections are made the pool shall remain shut down, all in accordance with orders heretofore made by the commission."

At the same time the above order was being made, the Public Service Commission was making plans to shut down the Eastborough Pool, in Sedgwick County, and the Voshell Pool, in McPherson County. Commissioner Hill said "that unless conditions arose between Saturday and Monday afternoon to make us change our minds the Eastborough and Voshell Pools will be ordered shut in."

Eastborough operators are objecting to a shutdown on the grounds that the pool is a comparatively small one and that it yields more water than oil. The production is less than 6,000 bbls. a day. The Ritz-Canton Pool has several gushers any one of which is larger than the combined output of the Eastborough Pool.

The shutdown order effective in the Ritz-Canton Pool has delayed companies planning new pipe lines into the field. Phillips Petroleum Co., which was preparing to lay a 6-inch pipe line into the field from its station in Greenwood County, a distance of about 65 miles, suspended work on the line. The Globe Oil & Refining Co. of Blackwell, Okla., was buying rights of way for a combination 6 and 8-inch pipe line from its refinery at Blackwell to the Ritz-Canton Field, and all work on the project has been stopped until the conditions in the Ritz-Canton Field are more settled.

Kansas production shows a decline of approximately 5,000 bbls. a day from the previous week, most of which is due to the shut down of the production in the Ritz-Canton Pool. The daily average production for the State for the week ending August 29, was approximately 99,350 bbls. a day. It is approximately 11,000 bbls. under the State's allowable.

A potential test of the Ritz-Canton area was started August 17 and expected to be completed August 24. The chat wells in the area were allowed to take their potential on a decline curve of 15 per cent a month. Based on the decline curve the 48 completed chat wells in the Ritz-Canton Field show a potential of 38,060 bbls. a day. The largest well in the field is Stanolind Oil & Gas Co.'s No. 4 Flock, NW cor. Section 1-20-2w. on the west side of the field.

A report of the field for the period from July 1 to August 1 by the field umpire shows that several leases have a large shortage, in most cases due to the fact that the producers refused to sell oil during the period of low prices. Other shortages were due to the inability of the White Eagle Oil & Refining Co. to complete its pipe line into the area on the date previously announced.

The allowable production during the first seven days of the month was 9 per cent of the potential production. Beginning August 8, 1931, the White Eagle Oil & Refining Co. increased its shipments from 4,500 bbls. to 8,000 bbls. a day, making the total field pipe line outlet 14,800 bbls. daily. The allowable was increased to 13 per cent of the potential and has remained at that amount until such time as the potential or pipe line outlet necessitates a change in the allowable percentage.

Ellsworth County's Good Well

The wildcat well in Ellsworth County increased its production by deeper drilling. Gypsy Oil Co. and Tom Palmer's No. 1 Stoddenberg, C SW, Section 22-16-10w, is now rated at 1,500 bbls. daily after being drilled deeper 8 feet to a total depth of 3,347 feet. Before being drilled deeper the wildcat swabbed 20 bbls. of oil an hour.

New Wells in Ritz-Canton

New wells completed in the Ritz-Canton area during the week were shut in. E. B. Shawver and others' No. 1 Decker, NE cor., Section 2-20-2w, on the southwest edge of the Ritz-Canton Field, is estimated at 5,000 bbls. a day. It flowed 45 bbls. of oil in 12 minutes, which is at the rate of 225 bbls. an hour. The chat was found from 2,925-52 feet, where it started flowing. The well is located in what is believed to be the richest chat part of the field. It offsets the Stanolind Oil & Gas Co.'s No. 4 in the NW cor., Section 1-20-2w, which made approximately 6,700 bbls. a day and George Dickey and others' No. 1, in the SE cor., Section 35-19-2w, which made 6,000 bbls. a day. The owners may drill the well deeper and some believe it will make the largest producer in the Ritz-Canton Field.

The Derby Oil Co.'s No. 1 Unruh, SE cor., Section 26-19-2w, which extended the field a half mile to the west, was completed for 45 bbls. of oil an hour from the Viola lime at 3,386-96 feet.

Smith & Ash's No. 1 Kaegi, NW cor., Section 21-19-1w, on the east side of the Ritz-Canton area, was showing gas from the chat at 2,900 feet and the casing has been cemented. It offsets the Darby Petroleum Co.'s 30,000,000-foot gas well completed some time ago.

Owners of gas production in the Ritz-Canton area report that they are able to sell 3 per cent of the gas production. The gas is being sold to the Kansas Pipe Line & Gas Co. which owns a gathering line in the field and operators of a large distribution system in many Kansas counties.

Testing Deep Horizons

One of Sedgwick County's early oil pools is being tested for deeper production. Continental Oil Co.'s No. 1 Black, in Section 16-25-1, in the Goodrich Pool, was drilling deeper at 3,275 feet. If the test finds commercial production in the deep horizon it is expected it will result in considerable future development in the area. The test is one of the four producing wells in the field, all owned by the Continental Oil Co. Three of the wells are producing from the chat and one from the deep sand at 3,330 feet. The deep sand well is No. 1 Westerfield, which was completed for 40 bbls. of oil a day about two years ago and is still making some oil. The discovery well is No. 1 Goodrich, completed in the fall of 1928, with an initial estimated production of 5,000 bbls. a day, but it was shut in for tankage, and never "came back." The best it made when it was given a production test was 2,000 bbls. a day. The No. 1 Black was the last well drilled in the pool. Slow progress is being made on the test. The 6-inch casing was landed at 3,000 feet and if it is necessary to underream the casing it is expected it will be 10 days before the test reaches the deep pay formation. It is believed the Continental Oil Co. will drill 15 to 20 more wells in the pool in the next few months if the deep sand production proves promising.

Test in Haskell County

Another wildcat test was announced for the western part of the State, in Haskell County. Trees Oil Co. and others' No. 1 Warner, in Section 29-30-34w, is a rig. The test will be drilled in search of oil instead of gas. The location is on a well known structure and the drilling of the test will be watched by several major companies with blocks of acreage in the vicinity. The location is northeast of the gas production in the Hugoton gas field in Stevens County. It is being drilled on one of the largest blocks of acreage ever assembled in the State.

Finney County

Another wildcat test was announced for Finney County, located about 25 miles northwest of Garden City. It is National Refining Co.'s No. 1 in Section 13-23-30w. Material is moving in and it is expected the test will start spudding in a few days. It is located on a block of 19,000 acres on which the company has done considerable core drilling. The company expects to drill the test to a total depth of 5,000 feet if necessary.

Deep Test in Barton County

Hilligoss & Torrey's No. 1 Isern, NW

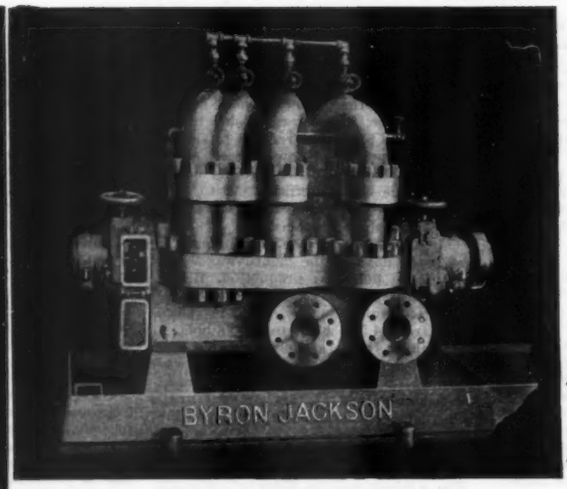
(Continued on Page 76)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Syndicate Oil Co.'s No. 1 Boertz, NW SE SE Sec. 13-18-12w	Shut down 2,440 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w	Drlg. 2,605 ft.
McCool et al's No. 1 Tsern, NW SE NE Sec. 12-20-11w	Shut down 1,600 ft.
CHASE COUNTY	
Borden et al's No. 1 Atkinson, NW SE Sec. 18-18-7	Rig on ground.
CLAY COUNTY	
Crystal Oil et al's No. 1 Tivier, SW cor. Sec 19-8-2	Shut down 2,700 ft.
COFFEY COUNTY	
Heyburg's No. 1 Kroft, SE SW SE Sec. 30-22-14	Shut down 1,565 ft.
COWLEY COUNTY	
Fisher et al's No. 1 Hurt, C SW SE SE Sec. 11-34-3	Rig abandoned.
DICKINSON COUNTY	
Severs et al's No. 1 Lavengood, NE SW Sec. 12-13-2	Drlg. 4,170 ft.
ELLSWORTH COUNTY	
Keyes Bros.' No. 1 Gregory, SW cor. Sec. 23-16-9w	Shut down 2,350 ft.
Alyward et al's No. 1 Stratman, SE NW SE Sec. 1-17-10w	Silicious 3,255-71 ft.; 117 bbls. 2 hrs.; shut in; est. 2,000 bbls.; no pipe line connections.
Aladdin Pet.'s No. 1 Stoddenberg, C SW Sec. 22-16-10w	Silicious lime 3,332-47 ft.; est. 1,-500 bbls. a day; shut in.
Milton et al's No. 1 Kester, SE NE Sec. 6-14-9w	Underreaming 6-in. csg.; T. D. 3,-350 ft.
FORD COUNTY	
Carter Oil Co.'s No 1 Everett, C NE Sec. 22-29-21w	Drlg. 5,691 ft.
Swain et al's No. 1 Taylor, C NW Sec. 21-26-24w	Shut down 5,105 ft.
GRAHAM COUNTY	
Schleimeyer et al's No. 1 Clark, SW NE NE Sec. 11-9-25w	Shut down 4,648 ft.
KINGMAN COUNTY	
Skelly Oil Co.'s No. 1 Miles, NE cor. Sec. 30-27-10w	1,635-40 ft. 2,000,000 ft. gas; at 2,005-20 ft. 6,000,000 ft. gas; at 2,133-42 ft. 3,000,000 ft. gas; showing oil 3,385 ft.; T. D. 3,-441 ft.; shut down; estimated at 600 bbls. a day.
HARVEY COUNTY	
Liggett et al's No. 1 Davis, SW SE NE Sec. 7-24-1	Drlg. 505 ft.
J. P. Flannigan's No. 1 Sheridan, C SW Sec. 32-22-1	Drlg. 2,630 ft.
LINCOLN COUNTY	
Buck et al's No. 1 Schulz, C SE NE SW Sec. 19-11-6w	Rig on ground.
MORTON COUNTY	
Hydraulic Oil Co 's No. 1 State Land, NW SE Sec. 22-34-43w	T. D. 3,640 ft.; shut down.
MORRIS COUNTY	
Allender et al's No. 1 Wycoff, C SW SE Sec. 5-17-7	Drlg. 105 ft.
Urschel et al's No. 1 Bersuch, NW SE NW Sec. 10-17-7	Machine.
Hankerson et al's No. 1 Cessman, SW SE Sec. 24-16-9	Drlg. 2,625 ft.

(Continued on Page 73)



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Drilling Increases in North Louisiana

Haynesville Field Will Continue Operating. Zwolle Area, Sabine Parish, Most Active Area in Division

By J. R. Crumpton
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Aug. 31.—The recent advance in the prices of crude for North Louisiana and Arkansas has had a stimulating effect upon activities in this division. While not reflected from the daily average runs from the several pools, increased drilling activity is noted by the number of new wells started, particularly in North Louisiana. A total of 17 new operations was started during the week, 7 of which were in the Zwolle area of Sabine Parish and 4 in the Richland and Ouachita gas fields.

Another result of the increased prices is indicated by an announcement of the Ohio Oil Co. that it would not seek a complete shutdown of the Haynesville Field, but would continue operating all of its leases in that area. For several weeks, this company, which operates 210 of the 405 producing wells in this field, has been trying to reach an agreement with the land and royalty owners whereby a complete shutdown might be effected for 12 months or until such a time as the price of crude would warrant operation of the pumping wells. The prevailing price of 70 cents for 40 gravity and above will enable all of the fields to operate, with the possible exception of the Bellevue shallow field which remains shut down. Only one major buyer quoted Bellevue, a price of 25 cents per barrel, and this company is not taking any production from that field at the present time. Several of the major companies holding wildcat acreage in this territory have reached an agreement with the landowners to pay the renewals at 50 per cent of the contract price, or as an alternative to drop the leases. The plan is being accepted with alacrity, particularly by the farmers, thereby enabling them to derive some revenue from their land, with also a chance for production through wildcat explorations. The majority of the wildcat leases are for five years with renewals from 50 cents to $1 per acre.

Five Completions

Only five completions were reported during the week from widely scattered areas of three states. The Zwolle Field of Sabine Parish, the most active area in North Louisiana, furnished the only producers, two in number. The Dengail Oil & Gas Co.'s No. 1 Nulton, Section 1-7-13, was completed at a total depth of 2,368 feet and gauged 255 bbls. for the first 24 hours. The well is located in the extension recently opened, about 1 mile southwest of Zwolle townsite production on the western extremity of the field. To date, four tests have been drilled in this immediate area, all of them producers and two of which had an initial flow of over 1,000 bbls. daily. The other producer was W. M. Coates' No. 1 Bowman-Hicks, in Section 2-7-12, about midway from east to west of the southern part of the field. It is a direct offset to the south of Ohio Oil Co.'s No. 6 Bowman-Hicks in the same section. The well is making 240 bbls. daily from 2,321 feet. Six-inch casing was set on top of the Zwolle marl at 2,232 feet and the chalk topped at 2,300 feet.

The other three completions were all failures, two of them quite disappointing as they were deep tests in rank wildcat territory. In Harrison County, East Texas, the Ryan Consolidated Petroleum Corp. encountered salt water and abandoned its No. 1 Keys, E. Carroll Survey, at 5,818 feet. It was the first Trinity test for this area which is between the Bethany gas field in Panola County and the Longview Field in Gregg County. Another deep test that had been closely watched was Ohio Oil Co.'s No. 1 Cantrell, Section 16-15-5, in Clay County, Mississippi. This well, which was drilled with cable tools, encountered large quantities of salt water at 4,680 feet and was abandoned. Mississippi furnished another dry hole with the abandonment of Stokes & Cleve Love's No. 1 Phillips, Section 14-10n-2w, Jefferson County. The total depth was 2,302 feet, and the drilling reports do not show that casing was set for a test or that there was a show of any kind along the log.

Test in Shreveport

In Caddo Parish, W. P. Wallace, trustee, tested dry at 2,047 feet in his No. 2 Cunningham-O'Conner, Section 15-17-14. Six-inch casing was set in the well at 2,042 feet after a good show of gas and several feet of likely looking sand was encountered. After bailing, the hole has been washed and swabbed with barren results and the operators are deepening with the expectancy of obtaining pay further in the Blossom formation. This test has been closely watched during the last few days as it is located within the Shreveport city limits and within a few hundred yards of the Spartan Refining Co.'s plant. In Claiborne Parish, Sugar Creek Field, the United Gas Public Service Co. is drilling at 1,190 feet on its No. 1 Treadwell & Hawk, in Section 6-19-5w. No surface casing has been set in the well. The Rellitt Oil Co.'s No. 1 Gannon heirs, Section 12-11-16, in De Soto Parish obtained a good show of gas at 1,965 feet, but after bailing down 1,500 feet, caving hole caused a halt in operations and it is understood that 4½-inch casing will be set just above the total depth. In Rapides Parish, the Pelican Natural Gas Co. is drilling at 1,395 feet on its No. 1 Long Bell Lumber Co., Section 3-1n-3w, situated on a 90,000-acre block about 35 miles southwest of Alexandria. The Langbridge Oil Co. is drilling at 2,670 feet on its No. 1 Stephens, Section 17-9-11, in the northern part of Sabine Parish. The Blossom sand was cored in this well continuously from 2,300 feet with no show, and the operators are drilling to the Woodbine formation.

Cass County Test

In Cass County, East Texas, the United North & South Co. is rigging up to drill its No. 1-A Nickleberry on the W. A. Irvin Survey. These pioneer operators, discoverers of the Luling Field, have assembled a block of 6,000 acres on which to make a Trinity test although the leases were obtained on a straight commercial basis with no drilling clause attached. A new test in Bowie County, Logan & Elliott's No. 1 Smith, Charles Lewis Survey, is drilling at 1,179 feet. This location is 5 miles north of the town of Hooks, and about 15 miles west of Texarkana. Shelby County is the only other area on the East Texas border that is active. Drilling operations for this county follows: K. H. Francis' No. 1 John Mimms, Mary Smith Survey, drilling in chalk at 2,486 feet; Henry Mauldin's No. 1 Frost Lumber Co., A. D. Fountain Survey, drilling at 3,020 feet; McRoby and others are rigging up No. 1 Windham, William Leach Survey; Ridgeway and others have spudded in on their No. 1 Polley, Domingo Gonzales Survey, and Tenant and others' No. 1 J. Henry, C. Z. Walker Survey, is drilling in chalk at 3,360 feet. Several other tests in this county are temporarily shut down but will resume drilling within a short time.

Arkansas Drilling

Six counties in Arkansas have wildcats that are actively drilling. In Dallas County, the Zepp Oil Co.'s No. 2 Hillman, Section 20-10-13, is drilling at 864 feet. The well is a few hundred feet south and east of E. C. Brewer's No. 1 Hilman in the same section which was carried to a depth of 2,869 feet. The Co-Operative Development Co.'s No. 1 Hardy, Section 6-13-7, in Drew County, is drilling at 1,500 feet. Other wildcats in Arkansas are: Hot Springs County, Star Oil Co.'s No. 1 Cunningham, Section 11-5-16, shut down at 1,300 feet; Lincoln County, Lawrence B. Cook, trustee's No. 1 McGhee Planting Co., Section 5-8-7, drill stem stuck at 2,800 feet; Miller County, W. E. Noel and others' No. 1 Dickson heirs, Section 11-20-27, temporarily shut down at 1,955 feet; and in Pike County, E. R. Henderson began his No. 1 East, Section 13-9-23, on August 22 and is drilling at 250 feet. The deep test of the Lion Oil Refining Co. in the Smackover Field of Union County, its No. 9-A G. P. Hayes, Section 4-16-15, is ratholing in hard red shale at 5,195 feet.

Daily Average Runs

There was only a net decrease of 235 bbls. for the fields of North Louisiana

(Continued on Page 98)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

BIENVILLE PARISH

Company, farm and location—	Remarks:
Arcadia Drlg. Co.'s No. 1 Atkins, 175 ft. W, 120 ft. N, SE cor. NW NE, Sec. 27-18-6	S. D. 1,635 ft.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	Flowing by heads 2 bbls. 2,890 ft; arranging to deepen.
Flint River Oil Co.'s No. 1 DeMoss, 200 ft. S and E, NW cor. SE NW, Sec. 22-22-13	Bailed dry 3,046 ft; W.O.
Dr. W. N. Hankin's No. 1 Newell, 300 ft. S and W, NE cor., Sec. 12-19-11	Drlg. 1,350 ft.
D. L. Perkins' No. 1 Ardis & Co., 1,127 ft. N, 198 ft. E, SW cor., Sec. 13-15-11	S.D. 1,004 ft.
Rombaugh et al's No. 1 Allison, SW SE, Sec. 10-19-13	S.D. 1,600 ft.

CADDO PARISH

United Gas Public Service Co.'s No. 1 M. K. Smith, 660 ft. S, 2,640 ft. W, NE cor., Sec. 32-23-16	Completed for 3,489,000 ft. gas at 5,690 ft.
W. P. Wallace, tr.'s No. 2 Cunningham-O'Conner, 210 ft. S, 940 ft. E, NW cor., Sec. 15-17-14	Testing 2,047 ft. (corrected depth).

CALDWELL PARISH

Carter Bell's No. 1 Taylor, 150 ft. S, 150 ft. E, NW cor. NE SE, Sec. 17-14-4	Set 12-in. csg. 110 ft.
Hudson et al's No. 1 Burton, Sec. 35-12-2e	S.D. 2,950 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6	T.A. 3,097 ft.

CLAIBORNE—SUGAR CREEK

United Gas Public Service Co.'s No. 1 Treadwell & Hawk, 1,470 ft. S, 1,395 ft. E, NW cor., Sec. 6-19-5w.	Began Aug. 20; drlg. 1,190 ft.

DE SOTO PARISH

Keatchie O. & G. Co.'s No. 1 Hallie Smith (was H. E. Weichert's), NE SE, Sec. 31-14-15	S.D. 2,350 ft.
S. S. Meek, tr.'s No. 1 Wagner, 300 ft. S and E, NW cor. SE NW, Sec. 5-12-14	S.D. for fuel 2,861 ft.
Ben Merritt, tr.'s No. 1 Wallums, NE cor. SW SW, Sec. 19-13-13	Set 6-in. csg. 2,530 ft; T.D. 2,657 ft.

(Continued on Page 70)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

CADDO PARISH—PINE ISLAND

Company, farm and location—	Remarks:
J. T. McCormick's No. 1 C. B. Christian, 830 ft. S, 300 ft. W, NE cor. SW, Sec. 27-21-15	S.D. 1,335 ft.
Shreveport Oil Corp.'s No. 2-B Muslow, 1,000 ft. S, 300 ft. E. NW cor., Sec. 32-21-15	S.D. 2,135 ft.
Simplex Oil Co.'s No. 1 Youree-Glassell, 500 ft. N and E, C, Sec. 13-20-15	Set 10-in. 150 ft; S.D.

CADDO PARISH—GREENWOOD AREA

Pyramid O. & G. Co.'s No. 2 Breard, 723 ft. S, 660 ft. E, NW cor., Sec. 10-18-16	Drlg. 2,450 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 300 ft. S, NE cor., Sec. 2-20-4	Location.

OUACHITA PARISH

Carbon Consolidated's No. 6 Guthrie, Sec. 49-20-4e. 6,985 ft. N, 6,013 ft. W from Common Corners, Secs. 49, 26 and 25	Set 6-in. 2,089 ft.
Carbon Consolidated's No. 4 fee, 1,945 ft. N, 3,046 ft. W, SE NE, Sec. 21-20-4e	Rigging up.
Carbon Consolidated's No. 7 Guthrie, Sec. 50-20n-4e, 5,263 ft. N. and 7,475 ft. W of Corners of Secs. 25, 26 and 49 in Sec. 50	Rigging up.

RICHLAND PARISH

Southern Carbon Co.'s No. 1 J. A. Noe, Sec. 24-17-5, 3,291 ft. S, 660 ft. E, NW cor.	Began Aug. 17; set 12-in. 174 ft; 8-in. 864 ft.
Southern Carbon Co.'s No. 6 Rosengraut & Ducomb, 2,640 ft. E, 1,980 ft. N, SW cor., Sec. 19-17-6	Rigging up.
Southern Carbon Co.'s No. 9 Rosengraut & Ducomb, 1,320 ft. N, 660 ft. E, SW cor., Sec. 18-17-6e	Drlg. 1,305 ft.
United Gas Public Service Co.'s No. 2 Cummings, 3,485 ft. W, 1,320 ft. N, SE cor., Sec. 24-17-5e	Rigging up.
United Gas Public Service Co.'s No. 1-B La. State, 2,354 ft. E, 1,922 ft. N, SW cor., Sec. 32-17-6e	Derrick.
United Gas Public Service Co.'s No. 1 C. H. Pipes, 2,447 ft. S, 178 ft. E, NW cor. SW, Sec. 35-17-6e	Rigging up.
United Carbon Co.'s No. 1 Faust Lbr. Co., 1,320 ft. S, 1,980 ft. E, NW cor. SW, Sec. 13-17-5	Bailing 2,290 ft.

SABINE PARISH—ZWOLLE

Roy Baker's No. 1 Sabine Lbr. Co., Sec. 1-7-12	W.O., S.R. 2,548 ft.

(Continued on Page 72)

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MALONEY

Brazoria County Wildcat Shows Oil

Interest Centered on Manvel Geophysical Salt Dome Prospect Discovered by Torsion Balance. Possible New Refugio Area

By Nell Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Aug. 31.—Chief interest on the Gulf Coast at the first of the week was centered on Manvel, a geophysical salt dome prospect in northern Brazoria County, where a wildcat test being drilled by The Texas Company was showing oil. This test, No. 1 Belcher, was in a sand at a total depth of 5,481 feet and was reported as being about 20 feet in, making the top of the sand about 5,461 feet. Following a drill stem test, a string of 9⅝-inch casing is being run in the hole as this is written.

Location of The Texas Company's No. 1 Belcher is 157 feet southeast of the northwest line and 223 feet northeast of the southwest line of Lot 18, Block A, Suburban Gardens Subdivision. This is approximately 2,600 feet to the southeast of the same company's No. 1 O. F. Ewing, 50 feet out of the northeast corner of Lot 29, Harvey N. Little Survey. The latter, the first test on the prospect, was abandoned last April in heaving shale at a total depth of 7,648 feet. It previously had created considerable interest when, in a sand and shale at a total depth of 7,590 feet, it blew in estimated making 50,000,000 feet of gas through a half-inch choke. The well, however, lasted only a short time with volume and pressure dropping quickly to almost nothing. Along with the gas it sprayed some water and was claimed by some to have showed a little oil. The same test also encountered several other slight showings, one of which was in a sand at 5,500-30 feet, which was just slightly lower than the present sand in No. 1 Belcher. A drill stem test of that sand, however, showed salt water.

Torsion Balance Discovery

Manvel was discovered by torsion balance in 1929 by The Texas Company, which company now controls most of the acreage. The first test, No. 1 Ewing, was started in February, 1930, and was more than a year in drilling.

Another wildcat, Humble Oil & Refining Co.'s No. 1 O'Connor, northeastern Refugio County, in the lower Gulf Coast country, is causing a little attention to be directed that way. That test, in the John Keating Survey, just over the Refugio-Victoria County line, and about 4 miles to the southwest of what is known as the McFaddin or Bloomington district, at latest report was preparing to make a drill stem test of a sandy shale showing oil at 2,328-49 feet.

Indications of a possible gas well in this wildcat also were given last week in sand at 2,300-09 feet when a three-minute drill stem test showed dry gas with 800 pounds pressure through a three-eighths-inch choke. Several weeks ago the same test encountered some strong gas showings around 900 feet and tried to blow out while efforts were being made to run 13⅜-inch casing in the hole. Bottom of the hole at that time was 1,436 feet and the casing was set at 1,298 feet.

The showings in this test emphasize still further the prospects for the development of a field of extensive scope, possessing a multiplicity of sands and with general characteristics the same as Refugio, some 15 to 20 miles down the coast. Five gas wells have been completed in the McFaddin area in Victoria County, The Texas Company's No. 2 McFaddin being the nearest to the Humble's test, it having been completed at 2,025 feet. The latter company's third McFaddin test, a half mile to the north and west of No. 2, still is drilling but has picked up four different sands already, any one of which, it is reported, probably would have made a gas well. United Gas Co.'s No. 5-A McFaddin, some 4 miles to the east of The Texas Company's wells, and in an area where three gas wells have been completed in a 3,700-foot horizon, late in the week, was drilling below 2,400 feet.

Refugio Field

In the Refugio Field, Pearson Properties' No. 3 Ryals has been completed in the 6,400-foot horizon at 6,450-60 feet flowing 120 bbls. daily of high gravity oil with a working pressure of 1,750 pounds on the tubing through a quarter-inch choke. Eighteen feet of screen was set in the hole. This is a former 5,400-foot well deepened. The well is in the main part of the Refugio field where operations have been reduced to a few former wells being deepened to the lower horizons.

Coastal completions the past week were the fewest they have been for some time. In addition to the Refugio "gasoline" well, only two other wells were reported, these being at Barbers Hill in the salt dome district. There, Sun Oil Co. brought in its No. 2 Smith, west flank of the dome, flowing 270 bbls. 8 per cent water, daily through a half-inch choke from sand at 5,430 feet, setting 16 joints of 5-inch screen. On the southeast flank of the dome, McAlbert Oil Co. deepened its No. 2-A Higgins from 5,115 feet, where it formerly was completed, to 5,235 feet. With 22 feet of screen in the hole, the well came in flowing 500 bbls. daily through a three-eighths-inch choke, 190 pounds pressure.

The new development which has just recently got under way on the east flank of the dome as the result of The Texas Company's discovery in its No. 6 Wilburn of comparatively shallow prolific production close up on the dome above the "big" lime has not advanced enough for any additional wells to be brought in there in the immediate future. Five new tests are drilling in that area but no more locations were made the past week. With the exception of this activity there is very little of interest going on at that dome.

The first failure for the Hankamer Field, proper, southern Liberty County, was chalked up during the week by Gulf Production Co. in its No. 14 Boyt, abandoned with the total depth of 6,005 feet. Four additional deep tests have been abandoned in that district by the Gulf but these were wildcats located some distance from the present field. The field is on the Boyt tract in the H.&T.C. Survey No. 22, where 13 producing wells have been brought in. The fourteenth test is on the north end of the field although only 500 feet from production.

Markham Field

Ike Laughlin and others' (Ruth Production Co.) No. 1 W. H. Gray, north side of the Markham Field, is expected to make a good pumper in sand at 3,245-47 feet, where 15 feet of 4½-inch screen was set. The well was swabbed and started flowing by heads estimated at 200 bbls. daily but now is standing with better than 900 feet of fluid in the hole. The well is slightly over a half mile to the north and west around the dome from E. M. Hamill's No. 1 Meyers, completed several weeks ago on the northeast flank as a 500-bbl. well from the same sand. These are the only two wells in this sand, which is the deepest so far at Markham.

Cullen & West and Gulf Production Co. have reached the pay sand in their No. 2-A Lockwood & Sharp, Lockwood (Thompson) Field, Fort Bend County. Sand is at 3,126-38 feet and 9⅝-inch casing has been cemented at 3,064 feet. This well is 800 feet north and 20 degrees west of the discovery well, No. 1-A Lockwood & Sharp. It is of some interest in view of the fact that it is the first test to the north of the discovery well, which was completed at a total depth of 3,087 feet. Three other wells have been completed but they have been a half mile to the southwest of the discovery well, finding pay around 3,500 feet. Location was made by these operators for a ninth test, this being No. 3-A Lockwood & Sharp, 200 feet east of No. 2-A.

Humble Oil & Refining Co. has made two additional locations on the Lake Grand Ecallie Dome, Plaquemines Parish, Louisiana, these being Nos. 5 and 6 Cockrell-Moran. One test, No. 2 State (Lake Washington), which now is at a total depth of 1,481 feet, is reaming the hole to bottom to deepen. This dome was opened to production last June by No. 4 Cockrell-Moran, a 1,000-bbl. well in cap rock at a total depth of 1,158 feet. The dome is owned jointly by Humble, Gulf Refining Co., and Shell Petroleum Corp.

Louisiana Gas & Fuel Co. is rigging up for its second deep wildcat in the Houma district of Terrebonne Parish, Louisiana. This test, No. 2 Minor, 3,480 feet south and 1,980 feet east of the NW cor., Section 3-18s-16e, is approximately a mile to the southwest of No. 1 Minor, abandoned last March as dry at 6,500 feet.

GULF COAST FIELDS AND WILDCATS

Week Ended August 29
All Rotary

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 5 Wilburn, Henry. Griffith League, 350 ft. W of No. 4 in C of lease.... Drlg. broken rock 949 ft.

Gulf Production Co.'s No. 5 J. F. Wilburn, Henry Griffith League, 50 ft. from N line of tract and 210 ft. W of No. 1.... Drlg. sand and lime 1,360 ft.

Humphreys Corp.'s No. 6 E. H. Winfree, W. D. Smith Sur., 50 ft. from N line and 50 ft. from W line of tract .... Drlg. rock 5,823 ft.

Humphreys Corp.'s No. 1 Ebanspacker, Henry Griffith League, 700 ft. from the N line and 70.6 ft. from the E and W lines of the tract.... Shale 3,889 ft; cmtd. 9⅝-in. csg.

Humphreys Corp.'s No. 8-H Kirby, Henry Griffith League, 333 ft. W of No. 6-H Kirby and 70 ft. N of S line.... Drlg. sand and boulders 1,235 ft.

McAlbert Oil Co.'s No. 4 Wilburn, Henry Griffith League, 200 ft. W of No. 3 in C of lease, N and S.... Drlg. rock 961 ft.

McAlbert Oil Co.'s No. 2-A Higgins (W.O.), Wm. Bloodgood Sur. .... Set 22 ft. screen 5,235 ft; completed flowing 500 bbls. daily; 190 lbs. pressure; ⅜-in. choke.

Sinclair Oil & Gas Co.'s No. 3 Smith, W. D. Smith Sur., 50 ft. out of S cor. of tract.... Drlg. hard sand 5,390 ft.

Sun Oil Co.'s No. 2 Smith, W. D. Smith Sur., 75 ft. from W line, 50 ft. from N line of tract.... Set 16 joints 5-in. (O.D.) screen 5,430 ft; completed flowing 270 bbls., 8% wtr.; 125 lbs. pressure; ½-in. choke.

Sun Oil Co.'s No. 1 Anna Higgins, Wm. Bloodgood Sur., 230 ft. from E line and 31 ft. from S line 10-acre tract .... Sand 5,198 ft; cmtd. 7-in. (O.D.) csg.

Sun Oil Co.'s No. 2 Winfree, W. D. Smith Sur., 50 ft. E of SW line and 150 ft. N of S line of tract.... Drlg. rock 3,550 ft.

The Texas Company's No. 2 Winfree, west flank, W. D. Smith Sur., 264 ft. N, 50 ft. W at right angles out of SE cor. of lease.... Drlg. sand and shale 5,669 ft.

The Texas Company's No. 7 Wilburn, Henry Griffith League, 116 ft. S of Humphreys Corp.'s No. 8-H Kirby .... Spudded.

HUMBLE—HARRIS COUNTY

Southern Coastal Oil Co.'s No. 3 Perkins, John Jones Sur., 150 ft. N of No. 2 .... Derrick.

The Texas Company's No. 25 House (D.D.), M. Owen Sur.. Pumped fresh wtr. 5,008 ft; standing.

PORT NECHES—ORANGE COUNTY

The Texas Company's No. 1 Polk-Kuhn-Glass, 260 ft. E and 1,545 ft. S of SW cor. Marshall Beaucham Sur., in the T. J. Notgrass Sur.... Drlg. hard sand 904 ft.

The Texas Company's No. 3 Kuhn, 587 ft. S and 150 ft. W of NE cor. of the Mary E. Hall Sur. No. 2.... Location.

MARKHAM—MATAGORDA COUNTY

Ike Laughlin et al's No. 1 W. H. Gray, 400 ft. from S line, 150 ft. E line, Blk. 2, Wm. Hadden Sur.... Oil sand 3,245-57 ft; set 15 ft. 4½-in. screen; flowed by heads 200 bbls. daily; now standing; 900 ft. fluid in hole; to pump.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 22 Cade, N. Fitzsimmons Sur., 125 ft. S of No. 21.... Drlg. gumbo 1,600 ft.

HULL—LIBERTY COUNTY

The Texas Company's No. 2 Barrow (W.O.), Jesse Devore Sur., 276 ft. W and 50 ft. S of NE cor. Barrow tract .... Set 458 1-6 ft. 2-in. screen 3,928 ft; washing; showing gas.

DAMON MOUND—BRAZORIA COUNTY

Layne et al's No. 8 Wisdom, 155 ft. from NW line and 150 ft. from NE line, Lot 52, Blk. D, Wisdom Subd., A. Darst Sur. .... No report; previously reported depth 1,811 ft.

ORANGE—ORANGE COUNTY

Jefferson Prod. Co.'s No. 1 Bland.... Sandy shale 2,980 ft; drill stem stuck.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 14 Boyt, H.&T.C. Sur. No. 22, 500 ft. N of No. 10.... T.D. 6,005 ft; plugged to sand 3,961-78 ft.; set 41 ft. of 7-in. screen; tested S.W.; abd.

LOCKWOOD—FORT BEND PARISH

Cullen & West and Gulf Prod. Co.'s No. 2-A Lockwood & Sharp, J. Rabb Sur., 600 ft. N 20° W of No. 1-A... Sand showing oil 3,126-38 ft; cmtd. 9⅝-in. csg. 3,064 ft.

(Continued on Page 72)

Darst Creek Gets An 8,000 Barrel Well

Next to the Largest Well Yet Found in That Field. Important Gas Showing Discovered in Western Nueces County

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Aug. 31.—John F. Camp's No. 1 Sue Denman, an 8,000-bbl. well 1 mile southwest of the Darst Creek Field in Guadalupe County at 2,507 feet and 1 foot in the Edwards, and the showing of gas in the Stanolind Oil & Gas Co.'s No. 1 Stratton, 7 miles south of the Agua Dulce Field, in western Nueces County, were two outstanding events of the week in the Southwest Texas area.

The showing of gas at 2,300-09 feet and showing of oil at 2,328-49 feet in the Humble Oil & Refining Co.'s No. 1 O'Connor in northern Refugio also have an important bearing in Southwest Texas territory as the structural conditions run from the Saxet and White Point Fields north and east through the Refugio and McFadden Fields, with the Humble test between the last two named. Possibilities of that additional pool adds considerably to the importance of the entire territory.

Camp's No. 1 Sue Denman is unquestionably producing from the Edwards lime. It may be a separate pool as most of the geologists seemed to be of the conclusion that the field stopped with the Sun Oil Co. test on the Dowdy lease, though some are revising their opinions now. It may eventually prove solidly productive between the well and the rest of the field. Camp secured the lease on which the well is drilled from the Humble, and the acreage around that lease is owned by Humble, Magnolia, Gulf and Texas, extending for 2 or 3 miles south of the Guadalupe River.

340 Bbls. First Hour

The No. 1 Sue Denman was brought in late Tuesday night, August 25, and the first gauge taken was a one-hour gauge and during that hour it made 340 bbls. There was no water. It is only 1 foot into the Edwards and the gauge would indicate that it is about as big as any well completed in the field with the exception of one test by the Magnolia Petroleum Co. The storage on the lease was only 1,000 bbls. and the test was forced to choke down till more storage can be built and pipe line connections made. It is the biggest well that has been completed in Southwest Texas for many months.

From the Penn Oil Co.'s No. 1 Manford on the northeast, a crevice well, to John F. Camp's No. 1 Sue Denman on the southwest, is approximately 8 miles as the length of the Darst Creek producing area, though it is not solidly producing. The Penn Oil Co.'s No. 1 Manford has two offset producers, and there are no other producers between it and the Magnolia Petroleum Co.'s No. 1 Appling, nearly 2 miles southwest, which was another crevice well, and around which there are now four or five other producers, and then another jump of half a mile before there is any more production. A characteristic of the Darst Creek Field was the crevice wells that were all big producers. There is about 4½ miles of continuous solid production but in that are some crevice wells.

Camp's No. 1 Sue Denman cut the fault and went from the Taylor marl direct to the Edwards lime. There is the possibility, of course, that history may repeat itself and a few other producers be found around No. 1 Sue Denman and that will be the end of it. Nothing but the drill will really tell the story. However, this production from the No. 1 Sue Denman has stirred up a lot of excitement and interest in the territory extending across the Guadalupe to the southwest for several miles.

Lot of Future Drilling

It is evident that when conditions in the oil industry revive there will be a lot of additional drilling for Edwards lime production in the zone in which it can be reached at around 2,300 to 2,800 feet and also farther removed from the fault where drilling will have to go to around 6,000 to 8,000 feet. The three pools in the Edwards lime in Caldwell and Guadalupe Counties have produced down to the last of July 93,500,000 bbls. of oil and the Bruner and Darst Creek Pools are still young and have many months and years yet to produce.

Two tests will be watched with interest in the Balcones fault zone. Ralph R. Lewis' No. 1 Keith McGee in Caldwell County, which has spudded in and set surface casing, and A. H. Wray's No. 1 Roche in northeastern Frio County. Each will go to the Edwards lime. The Wray test is a pure wildcat, far from any other production and 75 miles from the Darst Creek Field, which is the nearest Edwards lime production. No. 1 Burns, drilled in the same part of the county by the same people, had a showing of oil in the Edwards. The Lewis test is in a territory where other tests have pretty well worked out the geology and have proved the fault line to exist and it seems to have a pretty good chance.

One other test, Glenn Mathis' No. 1 Martin in Atascosa County near Amphion now down around 2,500 feet and headed for the Edwards lime, is an interesting test for the reason that it is farther removed from the Balcones than most tests to the Edwards.

Other than the tests in Medina County for shallow production those mentioned constitute most of the active tests in the Balcones fault area at this time.

Nueces County

Stanolind Oil & Gas Co.'s No. 1 Stratton in southwestern Nueces County, about 7 miles south of the Agua Dulce Field, tested 200 pounds on drill stem in three minutes with no water but with wet gas. The well is shut down for orders. It is 12 miles or so west of the nearest of the anticlines shown on Alexander Duessen's map and published in a bulletin of the U. S. Geological Survey, but a line from it to the Agua Dulce Field would be about parallel with the nearest of the Alexander Duessen anticlines.

In the Saxet Field

Completion of the two Houston Oil Co. wells in the Saxet Field last week left nothing but the Gulf Oil Co.'s No. 1 Harrell on the north edge of the field which plugged back from 5,225 feet to 4,553 feet, where this week it is drilling plugs and nippling up ready to complete. It is a sand different from anything producing in the field, the deepest production being in two wells of the Saxet Oil Co. on the Dunn lease, Nos. 6 and 7 Dunn, at 4,300 feet. They are about 2 miles east of the Gulf Coast Oil Co.'s No. 1 Harrell. The No. 1 Harrell made quite an oil well at 4,095 feet, the initial production being 150 bbls., and 2½ miles west of it O. C. Best's No. 1 Boory is a big gas well spraying oil at about that depth. There are several producers at a little less than 4,100 feet and the two Saxet wells at 4,300 feet. No. 1 Harrell at 4,553 feet may start something new.

Three new tests are being started in the Saxet Field, all on the north edge of the field, none of them very far past the spudding-in stage. Gulf Oil Co. is starting its No. 1 Elder two or three locations northwest of the No. 1 Harrell. It has set surface casing at 482 feet and is drilling again. Neal-Milton and Kepley Production Co. are rigging up on on their No. 1 Roark, 2,000 feet northwest of Saxet Oil Co.'s No. 7 Dunn, which is producing at 4,300 feet and Saxet Oil Co. is building derrick for its No. 1 McCampbell.

On the north side of Nueces Bay in San Patricio County Welder Oil Corp.'s No. 2 Welder is down 3,660 feet and showing gas. It is a few locations from

(Continued on Page 76)

SOUTHWEST TEXAS PROVEN AREAS

COOKSEY POOL—BEXAR COUNTY

Company, farm and location—	Remarks—
Witherspoon Oil Co.'s No. 1 Knapick, 412 ft. W of CEL in J. W. Riall Sur.	T. D. 1,380 ft.; set csg.

DOBROWOLSKI POOL—BEXAR COUNTY

W. S. Rogers et al's No. 1 L. Donnop, Juan Montez Sur.	T. D. 612 ft.; shut down.

BRUNER POOL—CALDWELL COUNTY

Joe Bruner's No. 1 Malone, A. Floyd Sur.	T. D. 2,572 ft ; set csg.; standing.

CHAPMAN POOL—WILLIAMSON COUNTY

Westbrook Oil Corp.'s No. 8-A Lawrence, 150 ft. from S and E lines of tract in S. Miller Sur.	Location.

PETTUS POOL—BEE COUNTY

J. L. Mauldin's No. 1 fee, 1,300 ft. N of S line, 150 ft. E of Medio Creek, Kerr Sur	T. D. 3,930 ft.; standing.
Geo. N. Moore et al's No. 2 Freeland, in John Pace Sur., 1,000 ft. from S line, 600 ft. from E line of survey	T. D. 4,294 ft.; standing
United Prod. Co.'s No. 39 Ray, 1,130 ft. to SE line, 2,396 ft. to SW line of T. Hanson Sur.	T. D. 4,420 ft.; drlg.
T. B. Slick, estate's No. 1 Ray, in Kerr Sur., 330 ft. E of most easterly W line, 150 ft. N of S line of survey	Location.

CARTWRIGHT POOL—LIVE OAK COUNTY

Houston Oil Co.'s No 14 Cartwright, 1,000 ft. W of No. 23 Cartwright	T. D. 5,400 ft.; standing.

CHITTIM POOL—MAVERICK COUNTY

Texas Gas Utilities' No. 8 Chittim, 24 ft. S of No. 7 Chittim	T. D. 4,690 ft.; fishing.

SAXET FIELD—NUECES COUNTY

Gulf Coast Oil Co.'s No. 1 Maggie Harrall, 330 ft. from S and W lines of Blk. 32, Sec. 311	T. D. 5,226 ft.; plugged back to 4,553 ft.; set csg.; now drlg. plug.
Gulf Coast Oil Co.'s No. 1 Elder, NW of same company's No. 1 Harrell	Rigging up.
Neal-Milton and Kepley Pet. Co.'s No. 1 J. N. Roark, 200 ft. to S line, 200 ft. to E line of 106-acre tract	Rigging up.
Saxet Oil Co.'s No. 1 McCampbell, 600 ft. from N and W lines of tract	Building derrick.

LAREDO DISTRICT
KOHLER POOL—DUVAL COUNTY

Humble Oil & Refining Co.'s No. 50 Kohler, 2,805 ft. from S line, 165 ft. from W line of Sur. 164	T. D. 7,465 ft.; drlg.

CAROLINA-TEXAS POOL—WEBB COUNTY

George S. Marshall's No. 1 Benavides, 660 ft. from S line, 150 ft. from E line of Sur. 682	Location.

SCHOOLFIELD-O'BYRNE POOL—DUVAL COUNTY

Duval Oil Corp.'s No. 3 Bishop Land Co., 330 ft. from N line, 1,650 ft. from W line of Sur 135	T. D. 2,312 ft.; drlg. plug.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks—
Tom Draper's No. 1 Trueblood, 250 ft. from N line, 1,440 ft. from W line of tract, John Neill Sur.	T. D. 650 ft.; shut down.
Glen Mathis' No. 2 Mrs. C. Martin, 100 ft. SE of No. 1.	T. D. 2,452 ft.; drlg.

BLANCO COUNTY

Hardy-Sitton's No. 1 McMillan	T. D. 600 ft.; fishing.
Theo. Hicks' No. 1 Specht, 1,500 ft. from S line, 500 ft. from W line of farm in Thomas M. Fowler Sur. No. 27 in extreme south point of county	T. D. 700 ft.; setting 12½-in. to shut out water.
Liles-Adams et al's No. 1 Stanford, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T. D. 1,040 ft.; drlg.
McCleary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to S line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City	T. D. 574 ft.; shut down.
C. Rosenfield's No. 1 Hohenberger, 800 ft. to W line, 1,260 ft. to N line, Sur. No. 94	T. D. 712 ft.; shut down.

BASTROP COUNTY

W. A. Allen's No. 1 Birmingham, James Stewart Sur.	T. D. 827 ft.; drlg.
Smith & Barnes' No. 1 Marberger, 50 ft. W line, 1,360 ft. S line of tract in King & Millett Sur.	T. D. 570 ft.; shut down.
Texas Dev. Co.'s No. 1 C. H. Ray, 800 ft. from W line and 400 ft. from S line of farm in Thos. Christian Sur	Derrick.

BELL COUNTY

Mildon Oil Co.'s No. 1 J. K. Edds, Maxiano Moreno Sur.	T. D. 906 ft.; testing.
Fields & Lange's No. 1 C. S. White, 150 ft. from S line, 300 ft. to E line of farm in Nancy Roberts Sur.	T. D. 297 ft ; drlg.
Hartman Drilling Co.'s No. 1 E. L. Deaver, 600 ft. to N and 300 ft. to E line of farm, in Nancy Roberts Sur.	T. D. 482 ft.; drlg.
J. W. Riley's No. 1 W. S. Chaffin, in M. Griffin Sur.	Spudded in.
James Scroggins' No. 1 Warrick, Ingram Sur.	T. D. 1,425 ft.; reaming.
Vilas Oil Co.'s No. 1 B. F. Whittington, 9 miles E of Holland	T. D. 1,298 ft.; shut down.

BEE COUNTY

Alexander et al's No. 1 McFall, 3 miles S Skidmore	T. D. 1,870 ft.; drlg.
Mauldin et al's No 1 Kimball, 300 ft. S Grayburg's No. 1-A Kimball, S. Winship Sur.	T. D. 3,544 ft.; standing.

BEXAR COUNTY

J. E. Anderson's No. 1 Suburban Irrigated Farms	Making location.
Ingersoll-Miller's No. 2 Carruth, 3,900 ft. S, 2,500 ft. W of NE cor. of tract in Francisco Bolen Sur.	T. D. 700 ft.; set csg.
Schneider, Rees et al's No. 2 Claussen, 12 miles NE of San Antonio	T. D. 865 ft.; underreaming csg.

CALDWELL COUNTY

Ralph R. Lewis' No. 1 Keith McGee, 600 ft. from E and S lines of tract in J. Pinchback Sur.	Set surface csg.

(Continued on Page 69)

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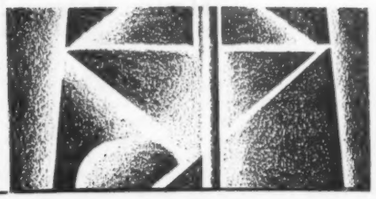

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OGJ-9-3-GRAY

CONTINENTAL

Important Well on Greasewood Dome

Reiter-Foster's No. 1 Johnson Made 699 Bbls. in 12 Hours. Artesia Producers Ask Governor for a Shutdown.

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Sept. 1.—The big event of the week in the Rocky Mountain area was the drilling in of the Reiter-Foster Oil Co.'s No. 1 Ida Johnson, on Platte Valley Petroleum Co. acreage on the Greasewood Dome in northeastern Colorado, which made 699 bbls. naturally in 12 hours at a total depth of 6,652 feet before being tubed. It definitely proves the structure and foreshadows extensive development in that district. Two other wells in northeastern Colorado are nearing the objective.

Artesia oil men requested the governor of New Mexico to close down all wells in that State making more than 25 bbls. daily until the price of oil is raised to $1 per barrel and all fields are put on an equitable proration basis and urged the use of force, if necessary. New Mexico reported no completions and no new wells started.

The Continental Oil Co. completed a good producer in the Lakota sand in the Big Muddy Field in Wyoming, the second test to that horizon. The Neiber Dome test of the Ohio Oil Co. is showing some gas in the top of the Frontier at 7,255 feet. One completion in the Osage Field made 200 bbls. naturally after a shot.

The Montana Power Co. interests started one new well in the Cut Bank Field in Glacier County and a well a mile east of the discovery on the Dry Creek Dome in Carbon County is showing gas in the Frontier.

The Utah Southern Oil Co. will drill deeper in its Salt Valley test in Utah.

COLORADO

Weld County

The big event of the week in the Rocky Mountain area, as well as the outstanding development for several months, was the bringing in of the Reiter-Foster Oil Co.'s No. 1 Ida Johnson, C NE NW, Section 24-6n61, Greasewood Dome, Weld County, northeastern Colorado. The well, which is being drilled under a contract with the Platte Valley Petroleum Co., reached the top of a sand, presumably the first sand in the Dakota series, at 6,642 feet and was drilled to a total depth of 6,652 feet. It was gauged for 12 hours after going 3 feet into the sand, and made 504 bbls. It was then drilled to its present depth and made 699 bbls. in 12 hours. Later, but unofficial, reports are to the effect that subsequent gauges showed around 684 bbls. in 24 hours. The oil is flowing through a 4-inch line from the well to a 5,000-bbl. tank 2,000 feet away at an elevation of 41 feet above the derrick floor. It will not be drilled deeper at this time, but will be tubed with a string of 3-inch and back pressure applied. A battery of ten 500-bbl. tanks is being erected closer to the well and on the same level. The location of the Ida Johnson well is 1,000 feet north of the discovery well, which has been averaging 350 bbls. daily since last October from a total depth of 6,667 feet. Taking into account the difference in surface elevation, the pay was found at approximately the same depth in both wells. The crude tests 41 degrees gravity on the A.P.I. scale. The Continental Oil Co. has been taking the crude produced by the discovery well, but these shipments were discontinued August 1 as there is an ample demand in the field for the oil as fuel for drilling purposes, and from farmers, to absorb the supply.

The rotary used in drilling the Ida Johnson well has been moved over to the same firm's No. 1 Johnson-Juhl, C SE SE, Section 14-6n-61, half a mile to the northwest of No. 1 Ida Johnson. This well spudded to 171 feet and set the 20-inch conductor pipe and shut down to change over to rotary.

The next completion in the field is expected to be the Continental Oil Co.'s No. 1 Briggs, C SE SW, Section 13-6n-61, an offset on the north to No. 1 Ida Johnson. This well spudded on August 1 and reached a depth of 5,550 feet in approximately 26 days. At this depth the 9⅝-inch was cemented, the only string run so far except the conductor pipe. It is waiting for cement to harden. The trouble encountered in cementing jobs in the No. 1 Ida Johnson was not encountered in this job. Several tons of ice were used in mixing the 900 sacks of cement used to overcome as far as possible the effects of the high temperature at the bottom.

The Continental's No. 1 Gadbois, C SE SW, Section 24-6n-61, half a mile to the south of the No. 1 Patterson, the discovery well, resumed at 3,080 feet after being shut down for water, and was drilled to 3,210 feet when one of the boilers exploded. It is expected to be making hole again within a few days. No new locations have been announced and it is not expected that any wild drilling campaign will be inaugurated. George A. Vincent and others' No. 1 Gadbois, C NW NW, Section 25-6n-61, has cellar dug, and the Aztec Corp.'s No. 1 Kirchoff, C SW NE, Section 1-6n-61, also is a cellar. Across the line in Morgan County, the Independent Oil & Refining Co.'s No. 1 Schmidt, C NE NW, Section 19-6n-60, has derrick up.

Morgan County

The Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, was drilling at 5,290 feet on August 22. The objective, the first Dakota sand, is expected in this well at 5,500-5,600 feet. It is being drilled with rotary. The Badger Creek Oil & Gas Co.'s No. 1 Kent, SW cor., Section 2-2n-57, Badger Creek, is preparing to resume at 1,200 feet after deepening and cementing cellar. It will run the 12½-inch.

The Colorado Associated Oil Co.'s No. 1 Pumphrey, C SE SE, Section 14-4n-58, North Fort Morgan Dome, has cellar, sump and foundation completed and is moving in five cars of materials from Wyoming and the same quantity from Oklahoma. The Olson Drilling Co. has the contract and the rig used in drilling the deep test in Salt Creek is being furnished by the Midwest Refining Co. The Colorado Associated stock was withdrawn from the local market this week as the well has been financed. William Myers, H. Leslie Park, Sidney H. Keoughan and other well-known oil men in this territory are sponsors of this test.

Adams County

The Hills Dome Lease Development, heretofore carried as Nettie M. Slatt's No. 1 Hills, SE cor., Section 27-3s-64, Watkins district, is preparing to resume at 3,720 feet after installing new cable. Mrs. Slatt's will was offered in the probate court this week, named James E. Garriques, former justice of the Colorado Supreme Court; Robert Lowry and H. G. Wilkinson as trustees to carry on the oil development.

Arapahoe County

The MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE, Section 7-4s-66, Aurora district, is preparing to resume at a total depth of 5,835 feet. The 4¾-inch is 50 feet off bottom and will be lowered before making any new hole.

Lincoln County

The Eastern Colorado Oil Co.'s No. 1 State, SE cor. NW, Section 36-14-57, near Hugo, is bottomed in the Mowry shale at 3,450 feet and fishing for tools. It is believed to be less than 100 feet off the Dakota. At present depth it is showing a little gas of a different quality from that encountered in higher formations and apparently has a petroleum origin.

Larimer County

C. Leonard Smith's No. 1 State, SE cor., Section 36-12n-70, Sand Creek, is preparing to resume after placing a shot below the 3¾-inch at 685 feet.

Jefferson County

The Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, near Denver, cemented the 6⅝-inch at 3,930 feet and is waiting.

Rio Blanco County

The California Co.'s No. 1 California-Raven, NW SE, Section 30-2n-102, Rangely Dome, is drilling at 1,837 feet, and the Magnolia Petroleum Co.'s No. 1 Maddock, C NW SE, Section 9-2s-96, Picenace Creek, is drilling at 1,405 feet in gray shale.

Moffat County

William Myers' No. 1 State, NW SW SW, Section 16-4n-101, Midland Ridge, is shut down at 2,950 feet and probably will not resume until next spring.

NEW MEXICO

A telegram signed by 125 oil operators and business men of Artesia was sent to Governor Arthur L. Seligman on August 19 petitioning him to close down all wells in the State producing more than 25 bbls. a day, and to keep them shut in until the market price reached $1 per barrel, and until the different fields in New Mexico were equitably prorated. This action, it was stated, was taken "in sympathy with and due respect for our neighboring States of Oklahoma and Texas" and the petition then went on to state that "we should not allow our oil to be shipped into our neighboring states, even though it is comparatively a small amount, when they have taken such drastic measures to benefit the oil business as a whole." It recommended to the governor that he use all the powers vested in him to this end, even to calling out the militia, if necessary. The petitioners expressed a fear that if the requested action was not taken, New Mexico would be discriminated against when the other states had attained their end.

Governor Seligman replied to this telegram that he was trying to get better prices without having to use force and then referred to telegraphic correspondence he was having with E. G. Allen, chairman of the Hobbs Proration Committee. Recently the governor wrote a letter to the operators requesting them to advance the price of New Mexico crude and saying that New Mexico expects the price of crude at Hobbs to be increased proportionately with the price increase in other states. Chairman Allen replied by telegraph quoting Mid-Continent and Hobbs prices for crude of the same gravity for the past year to show that there had been no discrimination and stating that he feels producers should be gratified that Hobbs prices have been maintained at 25 cents while it has been possible until the recent shutdown in East Texas to purchase oil there as low as 10 cents per barrel. He pointed out that East Texas was nearer the markets than Hobbs and expressed his appreciation of the governor's interest in the price structure. (Hobbs crude has since been advanced to 35 cents per barrel.)

Governor Seligman replied that this answer was not satisfactory and asked that he be advised definitely when New Mexico crude prices will be advanced to prices existing in other states. "I do not believe," he said, "we have been discriminated against when the general price structure has declined, but believe that we are being discriminated against when the general price structure has advanced."

No further correspondence has been reported so far, but the day following (August 22) the governor at Las Vegas addressed two units of the national guard. While not directly referring to the oil situation, he was quoted as follows: "There have been times when it has been necessary for the governor of this State to call upon the national guard for the protection of the people and their rights. It may be necessary for me to call upon you at any time. There are situations existing today which are fraught with the possibility of danger and disruption for some of the State's principal developments and resources. I am certain after having witnessed this wonderful demonstration of perfect discipline and co-ordination, that the New Mexico national guard will not be hesitant when called upon to do its duty for the people of the State faithfully and thoroughly."

Lea County

The Western Drilling Co.'s No. 1 State, SE NE NE, Section 16-20-32, northwest of the Lea Pool, is drilling at 3,910 feet in lime with 3,100 feet of water in the hole. Culbertson & Conrad's No. 1 State, C NE, Section 22-18-34, Caprock area, is drilling at 3,395 feet in anhydrite and red sand.

Eddy County

R. D. Compton's No. 4 Brainard, SE SE, Section 7-18-27, Artesia area, is bottomed at 1,006 feet and underreaming the 8¼-inch. It had some water at 938-56 feet and an increase at 986-92 feet. Flynn, Welch & Yates' No. 60 State, SW cor., Section 5-19-28, is drilling at 1,515 feet in sandy shale. It topped the red sand at 1,490 feet. The Oil Well Drilling Co.'s No. 1 Baker, SE NE NE, Section 21-21-26, Carlsbad area, is drilling at 1,120 feet in white lime.

Chaves County

Warman Oil Trust's No. 1 Evans, N half, Section 15-14s-25, Blackdom district, is drilling at 173 feet and has run two joints of 12½-inch. This location is to the southeast of its No. 1 Seibert, NE. Section 27-13-24, which was abandoned temporarily without plugging at a total depth of 2,686 feet. R. T. Neal and others' No. 1 Russell, SW NW NW, Section 21-14-25, is shut down at 2,320 feet.

DeBaca County

The Landowners Oil Co.'s No. 1 McAdoo, SW cor. NE, Section 16-1s-27, Buffalo Creek, is cleaning out near bottom at 4,508 feet after cementing cave with 500 sacks. The Matador Oil Co.'s No. 1 Wood, NE SW SW, Section 6-4n-20, Salada Creek, is bottomed at 3,200 feet and cleaning out cave below plug at 3,180 feet.

Don Ana County

The Viking Oil & Development Co.'s No. 1 Cox Ranch, NW SW NW, Section 26-23s-5e, is bottomed at 3,065 feet. Core at 3,059-65 feet showed valley fill with sandy shale.

Rio Arriba County

The Governador Dome Oil Co.'s No. 1, SE, Section 15-29-7w, is drilling below 1,500 feet.

Guadalupe County

The New Mexico Producing & Refin-

(Continued on Page 76)

ALCO

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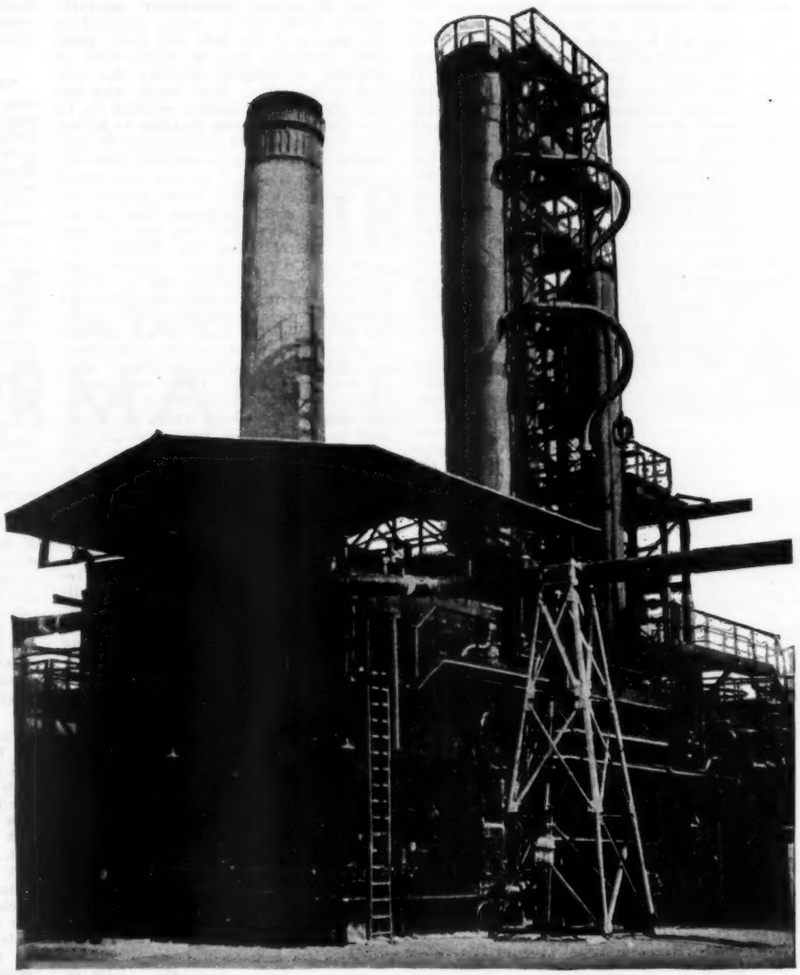

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California Crude Market Stiffening

Excess Production at Playa Del Rey Disturbing Feature. Settled Production in Excess of Normal Requirements

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Aug. 29.—Crude oil production in California registered a substantial decline during the past week, and, while the daily average was a little over 500,000 bbls., production dipped slightly below this figure for one day. There has been a definite stiffening in the spot market for crude oil, and, while a number of producers anticipate the payment of premiums for crude oil by independent refiners in the near future, this seems rather remote at present. The situation could be changed quickly, however, if excess production could be eliminated at Playa Del Rey and spot oil removed from the present market. With the exception of the failure of Playa Del Rey operators to curtail current production and a little uncurtailed oil at Santa Fe Springs and Long Beach, the local production situation is in fairly good shape. These three fields are primarily responsible for the inability of California producers to reduce current production to the existing allowable of 487,500 bbls. daily. If these three fields could be brought into line conditions on the Pacific Coast would be in excellent shape and both producers and refiners would be in a position to use black ink in place of the red which has been shown for more than a year.

Curtailment work in California has been quite an important factor during the past year and this constructive program, which theoretically terminates at the close of the current year, will of necessity be extended up into 1932. There is only one flush field, Kettleman Hills, in California at present, although of course production in many other fields could be greatly increased by additional drilling if necessary. The chief difficulty is not so much from flush production as it is from the fact that the settled production of the State is so greatly in excess of normal requirements. Playa Del Rey, a settled field, is responsible to a large degree for existing unsettled conditions in the refined oil market on the Pacific Coast and if spot oil from this field could be eliminated marketing conditions would show a substantial improvement.

Resurvey of Potential

The engineering committee of the operators general committee on curtailment is completing a resurvey of California's potential daily production, and, while the results are not yet available, it appears probable the fixed potential for the State will probably remain about the same. It is likely that the potential daily production of Kettleman Hills will be substantially increased but most of this gain will be offset by decreases in other fields, notably Playa Del Rey, Long Beach, Santa Fe Springs and a number of other smaller fields. At the close of July, it is conservatively estimated that California had a daily curtailment of 350,000 bbls. The fields contributing the major portion of this curtailment were Kettleman Hills, with a shut in of 68,500 bbls. daily, Long Beach 26,000 bbls., Santa Fe Springs 30,000 bbls., Ventura Avenue 43,500 bbls., Coalinga 25,000 bbls., Elwood 20,000 bbls. and Midway-Sunset 28,000 bbls. These figures represent conservative estimates and give California a conservative rated daily potential of 865,000 bbls. A total of 6,545 bbls. are completely shut in, practically all of which are wells drilled by major companies. These figures are compiled from private sources and are admitted to be ultraconservative.

Temblor Production

The most important development in California from a drilling standpoint was the logging of Temblor production a few days ago in No. 1 Burbank, a test being drilled in the middle dome of Kettleman Hills by the Petroleum Securities Co. The importance which attaches to this discovery lies in the fact that a new oil field will be added to California's list of productive areas if the Petroleum Securities develops commercial production. It is a little too early to venture an opinion on the ultimate outcome of exploration work in the middle dome of Kettleman Hills except to say that the outlook is exceptionally promising. This dome has perfect closure and the log of the Petroleum Securities well correlates closely with subsurface conditions in the north dome of Kettleman Hills. The interval between the top of the Bentonite and the top of the Temblor in the middle dome is considerably greater than in the north dome. The thickness of brown shale in the middle dome is also greater and consequently the top of the Temblor is considerably deeper.

The amount of potentially productive acreage in the middle dome is substantially smaller than the total possibly productive acreage in the north dome and it is assumed the two areas will not be comparable so far as total aggregate production is concerned. In addition to the Petroleum Securities, the Standard, Bolsa Chica and several other operators hold potentially productive acreage in the middle dome. Preliminary steps are already well under way to unify development in the middle dome if the Petroleum Securities is successful in developing commercial production. This plan is similar to that already in effect in the north dome which, while rather costly during the first year of operation due to expenditures made previous to unified development, will prove mutually advantageous during future operation.

Will Shut In

The Kettleman North Dome Association killed its No. 1-12P in the north dome at Kettleman Hills early this week and preparations have already been started to clean out the hole to permit a resumption of drilling. This well, taken over from the Continental Oil Co. by the Kettleman North Dome Association, was killed because of its excessive gas-oil ratio which precluded economic development. If the hole can be cleaned out the well will be carried down into the Temblor and the upper part of this zone cased off to reduce the excessive production of natural gas. When this well blew in rather prematurely, approximately 4,700 feet of tubing dropped to the bottom of the hole and while some little difficulty may be experienced in effecting a complete recovery the outlook is favorable. Fred Stone, who has the contract, successfully screwed on to the top of this tubing previous to killing the well and should consequently be successful in effecting a complete recovery.

This is the second big gas well which the Kettleman North Dome Association has shut in at Kettleman Hills during the past 60 days, the first well brought under control being the Milham Exploration Co.'s discovery. In the first instance the contractor was unsuccessful in recovering the drill pipe as it was badly bent in dropping from the top to the bottom of the hole. Work was accordingly suspended and the crew transferred to the Continental's project shut in early this week. These two former producers were direct offsets to two Standard Oil Co. wells which are scheduled to be shut in some time in the near future. When the latter two wells are killed natural gas production will be reduced 130,000,000 feet per day. The two wells killed by the Kettleman North Dome Association were flowing approximately 150,000,000 feet of natural gas per day.

The North American Consolidated recovered the fish which has retarded drilling operations in No. 1 Blauvelt for several weeks and the hole is being cleaned out preparatory to the landing of an 8⅝-inch water string a few feet off bottom, 8,483 feet. The Temblor has not yet been encountered in this deep test located out on the north flank of the Kettleman Hills Field but this should be picked up within the next 50 feet as the Bentonite was logged at 8,434 feet. The Kettleman North Dome Association has made locations for three new wells in the north dome and rig material will be on ground within a few days for the first of this trio of new wells. This will be No. 81-1P, a southerly offset to the Associated Oil Co.'s No. 2 Whepley, a recent completion brought in flowing 16,000 bbls. per day. The other two projected wells of the association are No. 36-30J on the west flank of the northern plunge of the structure and No. 76-34Q on the west flank of the southern plunge. The Superior Oil Co. cemented No. 3 Huffman at 7,047 feet after topping the Bentonite at 7,020 feet.

Lost Hills

The Lost Hills Field of Kern County was brought to the attention of operators several days ago when the Lincoln Drilling Co. encountered an unusually good looking oil sand in No. 1 Theta in Section 12-26-20. This sand will not be tested as it is the present intention to drill through the second shale body as previous work in this area indicates the possibility that a much thicker zone may be anticipated. The General Petroleum has finished reaming and straightening its No. 1,301 and a core recovery at 4,080 feet shows the presence of a gray sand which reacts favorably to acetone and other tests. Both this well and No. 1 Theta of the Lincoln Drilling Co. have encountered the Temblor formation which has been found so highly productive in the north dome at Kettleman Hills and in the North Belridge Field of Kern County. No Temblor production has been developed in the Lost Hills Field up to the present time and consequently the work now under way will be watched with interest. The General Petroleum's No. 1 Berry in the South Belridge Field of Kern County is still in the brown shale at 5,950 feet, and, while not definitely out of the picture, has taken on a somewhat dubious outlook. The Belridge Oil Co. has just finished its well No. 35-48 in the North Belridge Field and it looks good for approximately 2,500 bbls. per day, although no definite check is available as to actual production.

Huntington Beach

The potentiality of the deep zone in the Huntington Beach town lot area is still conjectural due to the slow progress made in the three deep tests under way. The Superior Oil Co. is still working on both No. 1 Fee and No. 2-7 Gillette with the former looking the best prospect. W. E. McCaslin's No. 17 Transport at 8,365 feet is believed to have bridged over and efforts are being made to clean out the hole to bottom in order that a conclusive production test may be made. As the situation stands this area can neither be condemned nor approved for deep production. The Union Oil Co. is working on four new wells in the Dominguez Field of Los Angeles Basin, made necessary because of lease requirements, and, while they will increase the potential daily production of this district, they are not scheduled for completion for several months. Only three crews are being utilized in the drilling of these four wells, Nos. 26 and 27 on the Callender lease, No. 4 Carson and No. 16 Hellman. The three crews are being so rotated that three strings of tools are always in operation while the fourth well is standing cemented. The Standard has concluded drilling operations in the West Coyote Field of Los Angeles Basin where four wells were completed during the past 30 days and it is likely future operations in this area will be reduced to a minimum. One of these crews has been transferred to the Inglewood Field where preparations are under way to drill well No. 67 on Los Angeles Investment Lease No. 1.

Los Cerritos Well

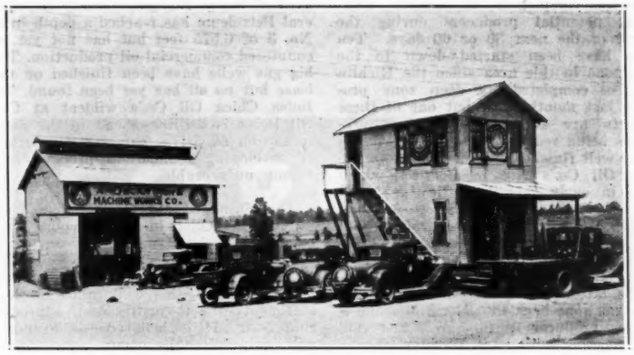
Another good well was finished in the Los Cerritos section of the Long Beach

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	.....	65,690
Fuel oil	.....	.....	.....	.....	.....	71,950
Diesel and gas oil	.....	.....	.....	.....	1,094,502	2,385,476
Gasoline	44,571	6,367	169,028	24,147	9,021,735	13,175,474
Kerosene	30,345	4,335	.....	.....	187,934	.....
Coastwise—						
Crude oil	423,508	60,501	275,820	53,689	14,553,725	10,145,603
Fuel oil	85,976	12,282	245,323	35,046	8,367,369	11,025,986
Diesel and gas oil	19,433	2,776	44,630	6,376	1,001,468	1,180,938
Gasoline	265,552	37,936	254,023	36,289	9,031,132	8,339,408
Kerosene	4,043	578	.....	.....	210,285	129,337
Naphtha distillate	.....	.....	.....	.....	4,952	.....
Exports—						
Crude oil	163,828	23,404	117,416	16,774	4,883,702	4,542,793
Fuel oil	121,971	17,424	212,432	30,347	9,121,133	11,885,697
Diesel and gas oil	.....	.....	51,425	7,346	2,453,631	3,070,163
Gasoline	80,833	11,555	369,929	52,847	6,094,091	10,445,963
Kerosene	10,549	1,507	14,840	2,120	1,069,598	2,698,205
Lubricants	.....	.....	.....	.....	36,353	14,680

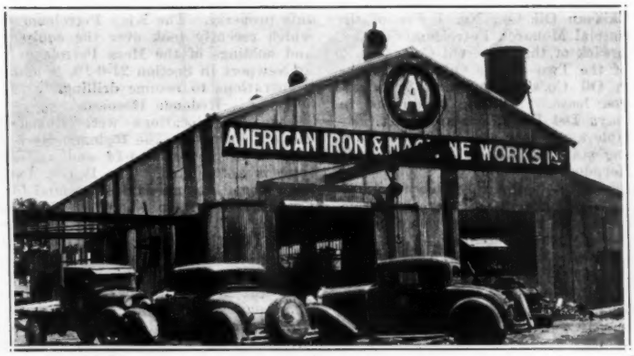
TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF PORTS

Diesel and gas oil	.....	.....	.....	.....	.....	227,648
Gasoline	.....	.....	117,050	16,721	591,439	783,367
Lubricants	.....	.....	.....	.....	27,306	16,776
Coastwise—						
Fuel oil	.....	.....	53,558	7,651	2,599,899	2,337,108
Diesel and gas oil	1,511	216	.....	.....	279,870	190,516
Gasoline	206,147	29,450	56,245	8,035	2,613,261	2,733,846
Kerosene	11,597	1,657	4,623	660	224,140	152,702
Naphtha distillate	.....	.....	.....	.....	49,780	.....
Exports—						
Crude oil	.....	.....	.....	.....	107,736	3,075
Fuel oil	55,331	7,904	164,290	23,470	1,031,914	662,135
Diesel and gas oil	.....	.....	.....	.....	294,708	393,829
Gasoline	.....	.....	87,247	12,464	2,869,372	2,605,171
Kerosene	.....	.....	8,000	1,143	548,188	503,368
Lubricants	.....	.....	.....	.....	.....	18,672
Naphtha distillate	.....	.....	.....	.....	20,100	.....



Upper picture—Shop and warehouse, Joinerville, Texas.

Below—Shops at Kilgore, Texas.



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MANUFACTURERS OF OIL FIELD EQUIPMENT

Field last week and a check indicates the probable completion of several additional potential producers during the course of the next 30 or 60 days. Ten wells have been started down to the deep zone in this area since the Richlin Oil Co. completed its deep zone producer last month. All but one of these projects are former upper zone producers being redrilled and deepened. The latest well finished in this area was the Ring Oil Co.'s No. 18 Cerritos which came in early this week flowing 1,580 bbls. of clean 28.9 gravity oil per day from 7,972 feet. This well, about 600 feet removed from the Richlin Oil Co.'s recent completion, No. 1 Venago, is producing from below the depth penetrated in the latter well. The General Petroleum has gone back into No. 3 Mission, a shallow producer in this area, and this well, together with S. S. Wortley's No. 1 Cerritos, will begin making hole in the near future. Other wells in the Los Cerritos section already being deepened or scheduled to get under way shortly include the Bush Oil Co.'s Nos. 2 and 3 on the Bell lease, No. 1 Robertson of the Chiksan Oil Co., No. 1 Fee of the Commercial Monarch Petroleum Co., No. 1 Sedgwick of the Dixie Oil Corp., No. 2 Fee of the Two & One Oil Co. and the Zenith Oil Co.'s Nos. 2 and 3 on the Cerritos lease. Drilling operations in the Playa Del Rey Field are practically negligible at present and little new work is being started. During the past week the Herndon Petroleum Co. successfully completed No. 3 Del Rey flowing 1,580 bbls. of 23.1 gravity oil per day from 6,335 feet, the hole having been finished with a 4½-inch oil string.

Ventura and Santa Barbara

In the coastal district comprising Ventura and Santa Barbara Counties, drilling operations are at a low ebb and will continue to reflect curtailment of both drilling and production activities. There are only 9 incompleted drilling projects under way in the Ventura Avenue Field, compared with 22 at the same date last year. Two of the wells under way, Bolsa Chica's No. 6 Hartman No. 7 Orton of the Pacific Western Oil Co., are being drilled to determine the possibility of developing production in the new zone discovered by the Associated Oil Co. a few months ago. This drilling is not of a competitive nature and both wells if completed will undoubtedly be shut in until conditions improve. There are only two wells being drilled in the Rincon Field, one of which is N. C. Needham's No. 2 on State tideland permit No. 55, rotating ahead in a sandy shale at 4,550 feet. Drilling operations in the Elwood Field likewise reflect curtailment of unnecessary expenditures and work will continue to reflect this condition for some time. In the More Ranch area of Santa Barbara County the General Petroleum has reached a depth in its No. 3 of 6,575 feet but has not yet encountered commercial oil production. Two big gas wells have been finished on this lease but no oil has yet been found. The Bolsa Chica Oil Co.'s wildcat at Coal Oil Point is drilling ahead in the Sespe formation at 5,475 feet and the outlook of developing commercial production is rather unfavorable.

Newport Field

The Standard Oil Co. is abandoning its No. 1 Sickler in the Newport Field of Los Angeles Basin as a duster at 5,656 feet. With the exception of a few minor showings encountered around the 3,000-foot level, this well failed to show sufficient sand to justify even a production test. It is believed the Standard will quit-claim the 2,000 acres leased from James Irvine just before this well was started. The Superior Oil Co. which has several hundred acres under lease about 3 miles south of the Standard's recent abandonment has not yet made any move toward drilling a test on this property. The Ajax Petroleum Co., which recently took over the equipment and holdings of the Mesa Petroleum Co. at Newport in Section 21-6-10, is making preparations to resume drilling.

Redondo Hermosa

Two new locations were staked by Zack J. Farmer in the Redondo Hermosa district in Section 6-4-14 and an early spud is anticipated. The Baxter Petroleum Corp. has material on ground for a new test to be drilled in the Hermosa district. Five small pumpers have been finished in the Hermosa area during the past several months but none has registered substantial production. It is the consensus among geologists and petroleum engineers that production being developed in the vicinity of Hermosa will ultimately be found to be a component part of the Torrance Field. This, of course, is still conjectural as there is untested area of approximately a mile between the Hermosa wells and the nearest production at Torrance. The Oklahoma Oil Corp. has erected a rig in San Diego County for a wildcat to be drilled on the Borega anticline near Palms in Section 25-11-8. There have been a number of wildcats drilled in San Diego County but none has shown anything resembling commercial production. Several major companies have tested this area from time to time but ultimately pulled out. In the northern part of the State, the Associated made a Temblor test of No. 1 Mitchel, a wildcat located on the Jacalitos anticline, a prominent topographic high in the Kreyenhagen Hills which parallel the Kettleman Hills to the east.

PRODUCTION IN TURNER VALLEY DROPS DUE TO CURTAILMENT

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Aug. 20.—Complete figures of production from all Alberta fields for July have been issued by the Alberta mines department. The figures show a total of 108,816 bbls., compared with 112,181 bbls. in July, 1930, a decrease of 3,365 bbls. For 1931, the total production from Alberta for the seven months ending July 31 aggregated 1,097,157 bbls. Detailed figures for the various Alberta pools are as follows:

	July, 1931	July, 1930
Turner Valley naphtha ..	99,333	100,278
Turner Valley light crude.	1,778	3,607
Red Coulee light crude...	5,764	6,226
Wainwright heavy crude..	818	758
Ribstone heavy crude.....	1,123	234
Skiff heavy crude	.....	1,078

Reduced figures in Turner Valley are largely due to the recent curtailment measures, and, with no important new production and further restrictions on gas flow and deliveries, the August totals are expected to show a decided drop.

The latest federal government figures, compiled by the Dominion Bureau of Statistics at Ottawa, are for May, and show a total crude petroleum output for all Canada of 156,392 bbls., compared with 106,339 bbls. in May, 1930. In May, 1931, Alberta is credited with 137,661 bbls.; Ontario, 10,044 bbls.; and New Brunswick, 715 bbls. In the same month the output of natural gas from all Canadian fields totaled 2,036,490,000 feet, against 2,107,290 feet in May, 1930.

Turner Valley Rock Pressures

That the reported decline in rock pressures in Turner Valley wells is due to offsetting rather than depletion is suggested in a recent statement by A. H. Mayland, president of Mercury Oils, Ltd.

"Turner Valley wells are not declining at the rate of 1 pound a day," stated Mr. Mayland. "East Crest pressures have been reduced, for instance, because the East Crest wells have been offset on the west by Mayland's No. 6 and on the south by Southern Lowery's No. 2. The former came in during June with 250 bbls. a day. The latter came in during July with 16,000,000 feet of gas. Naturally rock pressures would decline when a small area is being drained by three wells instead of one. The wells on our leases (Section 4-19-2w5) and on many others have not lost a pound in the last four months. Pressures have declined on some other wells, but these declines have been

(Continued on Page 75)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	9- 2-15	6,510	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12- 2-15	6,238	suspended
Mesmer City Corp., No. 1 Mesmer, Los Angeles Co.	24- 2-16	6,715	suspended
Farmer, Z. J., No. 1 Hermosa, Los Angeles Co.	6- 4-14	....	location
Westwood Oil Co., No. 2 Hermosa, Los Angeles Co.	6- 4-14	912	cemented
Baxter Pet., No. 1 Hermosa, Los Angeles Co.	5- 4-14	....	material
Cal. Oilfields Corp., No. 1 Hermosa, Los Angeles Co.	31- 3-14	2,560	suspended
Carniel Oil Corp., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,114	suspended
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14	4,665	suspended
Thorpe Pet. Co., No. 1 Hawthorne, Los Angeles Co.	19- 3-14	3,840	suspended
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24- 3-15	2,700	suspended
Pacific Shore Oil Co., No. 1 Lawndale, Los Angeles Co.	20- 3-14	rig	suspended
Smith, J. O., No. 1 Lawndale, Los Angeles Co.	20- 3-14	mtl.	building rig
York & Smullin, No. 1 Watson, Los Angeles Co.	29- 4-13	3,790	cleaning out
Wilmington Consd., No. 1 Watson, Los Angeles Co.	17- 4-13	1,012	suspended
Pedro Pet. Corp., No. 1 San Pedro, Los Angeles Co.	14- 5-14	rig	rigging up
Brubaker, W. O., No. 1 Van Nuys, Los Angeles Co.	11- 2-15	2,700	suspended
Rucker & Croul, No. 2 Puente, Los Angeles Co.	27- 2-10	2,200	suspended
D. & B. Oil Co., No. 1 Puente, Los Angeles Co.	2- 2-10	4,620	suspended
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30- 2- 9	1,990	suspended
Marcel Pet., No. 1 Puente, Los Angeles Co.	31- 2- 8	3,100	suspended
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30- 2-12	1,370	suspended
Jones, W. L., No. 1 Bell, Los Angeles Co.	31- 2-12	rig	suspended
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6- 2-11	4,344	cleaning out
Weist Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	4,842	suspended
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24- 1-13	3,919	redrilling
Yellowstone Oil Co., No. 2 Alhambra, Los Angeles Co.	19- 1-13	2,015	suspended
Rucker, L. W., No. 1 Calabasas, Los Angeles Co.	26- 1-17	753	redrilling
Caballero Estates, No. 1 Calabasas, Los Angeles Co.	23- 1-16	1,155	hd. sd. drilling
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	5,960	suspended
Simi Oil Co., No. 1 Calabasas, Los Angeles Co.	13- 1-17	rig	rigging up
West Coast Waste Oil, No. 1 Van Nuys, Los Angeles Co.	14- 1-16	rig	suspended
Standard, No. 1 Newport, Orange Co.	26- 6-10	5,561	cleaning out
Ajax Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	cleaning out
Beck, Alfred, No. 1 Corona, Riverside Co.	8- 4- 6	1,110	suspended
Alberta Oil Co., No. 1 Elsinor, Riverside Co.	35- 2- 2	3,425	cleaning out
Duncan, N. L., No. 1 Sagebrush, Riverside Co.	8- 4- 6	1,157	sd. sh. drilling
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25- 1- 3	3,392	redrilling
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	492	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,519	suspended
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	5,120	recemented
South Bay Oil Co., No. 1 Border, San Diego Co.	31-18- 2	1,243	sd. sh. drilling
Oklahoma Oil Corp., No. 1 Palms, San Diego Co.	25-11- 8	rig	rigging up
Itasca Pet. Co., No. 1 Mesa, San Diego Co.	33-18- 1	1,570	sd. sh. drilling
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 8- 8	5,256	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-35	7,175	br. sh. drilling
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-35	2,450	rigging rotary
Zaca Oil Co., No. 1 Los Olivas, Santa Barbara Co.	20- 7-31	rig	suspended
Ohio Oil Co., No. 1 Goleta, Santa Barbara Co.	16- 4-28	2,280	sd. sh. drilling
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	gas—shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	gas—shut in
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	6,575	Sespe form.
General Pet., No. 133 Goleta, Santa Barbara Co.	21- 4-28	2,030	suspended
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	2,052	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	2,047	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	2,050	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,931	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	2,051	suspended
Bowles Oil Co., No. 140 Goleta, Santa Barbara Co.	21- 4-28	2,065	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	2,004	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	2,012	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	2,010	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	32- 4-28	2,010	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	5,475	Sespe form.
Beliview Oil Co., No. 159 Goleta, Santa Barbara Co.	24- 4-29	2,099	suspended
Cochran, J. H., No. 1 Naples, Santa Barbara Co.	7- 4-29	5,134	suspended
Strickland & Tippett, No. 1-A Goleta, Santa Barbara Co.	19- 4-27	4,500	suspended
Sovereign Oil Co., No. 1 Guadalupe, Santa Barbara Co.	20-10-35	5,500	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
C.C.M.O. Co., No. 2-A Rincon, Ventura Co.	23- 3-24	10,030	plug 8,072 ft.
Continental, No. 1 Rincon, Ventura Co.	33- 3-24	6,134	cleaning out
Bell, H. H., No. 1 South Mountain, Ventura Co.	22- 3-21	590	sd. sh. drilling
Pure Oil Co., No. 1 S. F. Canyon, Ventura Co.	15- 4-21	2,591	suspended
San Pedro Oil Co., No. 2 Sespe, Ventura Co.	13- 4-21	3,410	fishing
Magu Synd., No. 1 Oxnard, Ventura Co.	17- 1-21	4,910	suspended
Mex Cal Oil Co., No. 1 Conejo, Ventura Co.	12- 1-20	240	suspended
Graham & Loftus, No. 1 Goose Lake, Kern Co.	20-27-22	130	tech. spud
Wilshire Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	7,000	suspended
Milham Expl. Co., No. 7 Buttonwillow, Kern Co.	6-28-22	2,733	cleaning out
Kent & McDonald, No. 1 Temblor Hills, Kern Co.	3-32-22	1,930	br. sh. drilling
Calif. Oil Producers, No. 1 McKittrick, Kern Co.	30-30-22	5,410	br. sh. drilling
Purman, T. H., No. 1 McKittrick, Kern Co.	22-29-21	rig	suspended
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	20-31-24	5,367	suspended
General Pet., No. 1 Belridge, Kern Co.	30-28-21	5,785	br. sh. drilling
Wallace, K. C., No. 1 Belridge, Kern Co.	32-29-21	4,222	testing
Rio Cal. Pet., No. 1 Shale, Kern Co.	2-27-18	2,355	suspended
Wicker, Sy., No. 1 Arvin, Kern Co.	12-30-28	3,580	suspended
Sbell, No. 1 Weed Patch, Kern Co.	29-30-29	5,910	testing
Osborn, Colter, No. 1 Weed Patch, Kern Co.	15-30-29	3,465	suspended
Osborn, Colter, No. 2 Weed Patch, Kern Co.	15-30-29	1,990	suspended
Mohawk Oil Co., No. 1 Weed Patch, Kern Co.	32-30-29	6,150	suspended
Standard, No. 1 Devils Den, Kern Co.	14-25-18	1,800	testing
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	21-26-18	1,760	br. sh. drilling
Temblor Dev. Co., No. 1 Blackwell Corner, Kern Co.	14-26-19	1,030	suspended
United Kern Pet., No. 1 Mojave, Kern Co.	36-10-14	1,065	suspended
Kendall Dev. Co., No. 1 Mojave, Kern Co.	27-11- 9	511	redrilling
Harding, J. B., No. 1 Mojave, Kern Co.	5-10-10	360	gr. sd. drilling
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	6,025	suspended
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	6,197	testing
Panorama Oil Co., No. 1 Carrizo, San Luis Obispo Co.	7-31-21	4,619	suspended
Trav-El Oil Co., No. 1 Carrizo, San Luis Obispo Co.	7-32-22	2,400	hd. sd. drilling
Paso Robles Synd., No. 1 Paso Robles, San Luis Obispo Co.	34-27-11	4,040	suspended
Latin Amer. Pet., No. 1 Shandon, San Luis Obispo Co.	31-27-15	4,615	suspended
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	24-28-12	1,360	sd. sh. drilling
Jergins, A. T., No. 1 Arroyo Grande, San Luis Obispo Co.	6-32-13	1,875	Serpentine
Pacific Inland, well No. 1, Monterey Co.	19-23-15	1,345	fishing
Brown, W. F., well No. 1, Monterey Co.	13-23-14	800	repair rig
Irma Investment Co., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,845	gas well—idle
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	gas well—idle
Eagle Oil Co., No. 1 Dudley Ridge, Kings Co.	15-23-20	rig	suspended
Kettleman Lakeview, No. 1-A Dudley Ridge, Kings Co.	20-23-20	2,040	recemented
Knudsen & Smith, No. 1 Reef Ridge, Kings Co.	36-23-17	4,305	to set pipe
Seymour, L. W., No. 1 Avenal, Kings Co.	10-23-16	1,148	suspended
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	7,170	hd. sd. drilling
Orinda Pet., well No. 1, Contra Costa Co.	32- 1- 3	2,850	cleaning out
Gholson, F. N., No. 1 Porterville, Tulare Co.	3-23-27	1,400	granite
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-24-27	2,130	cleaning out
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,092	suspended
Ellis & Stanford, No. 1 Tulare Lake, Tulare Co.	20-24-23	1,498	suspended
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	955	hd. sd. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	3- 2-10	4,195	hd. sd. drilling
Orland Oil Synd., No. 1 Orland, Tehama Co.	31-23- 3	2,520	redrilling

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Central Ohio and Michigan Are Busiest

Eight Completions and 21 New Operations in Ohio Field. Mount Pleasant Field Developments Point to Revival

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Aug. 31.—Only slight changes are noticeable in the Central West Field, comprising the old Lima Field of northwestern Ohio, Central Ohio, Indiana, Illinois, Michigan, Kentucky and Tennessee, the most active areas being in Michigan and Central Ohio Fields.

In the old Lima Field of northwestern Ohio, C. W. Sapp drilled in a nice shallow gas well on the J. W. Miller farm, Section 32, Jackson Township, Sandusky County. In western Lucas County, the Lake Shore & Southwestern Metal Co. brought in a 300,000-foot gas well in No. 1 Francis Oberly farm, Section 6, Providence Township. M. Gray and others are drilling on the Keil Brothers' 100 acres, Section 28, Monclova Township, same county.

In the Tiffin Field, J. H. Murphy and Sons' test, on the Sarah Grimes farm, Section 2, Hopewell Township, produced 5,000 feet of gas, and same parties are drilling No. 3 on the Mary Getuldig farm, same county. In Liberty Township, same county, McKinney Brothers' test on the R. M. Martin farm, Section 25, produced 15,000 feet of gas, and W. S. Summers is drilling a second test on the Summers farm, Section 35, same township.

In Henry County, the Lake Shore & Southwestern Metal Co.'s No. 1 J. E. Hockman farm, Section 23, Damascus Township, produced 600,000 feet of gas in the Trenton formation.

In Wood County, George L. Haubert and others' No. 6 on the Catherine Smith farm, Section 29, Perrysburg Township, showed an initial of 10 bbls. in the Trenton lime. The Lake Shore & Southwestern Metal Co. is still at work on the Henry Keckley farm, Section 7, Grand Rapids Township, same county. In Bloom Township, same county, the Ohio Oil Co. abandoned No. 3 Northwestern Natural Gas Co. farm, Section 29; No. 16 E. H. Monasmith farm, Section 28, and Nos. 8, 9 and 10 T. J. Campbell fee farm, Section 19, same township.

In Hancock County, Mathias Brothers are drilling No. 15 Isaac Hunt farm, Section 27, Portage Township. In the same township, the Ohio Oil Co. abandoned Nos. 1 and 9 J. H. King farm, Section 34. In Liberty Township, the Ohio Oil Co. abandoned No. 5 I. W. Whetstone, Section 13; No. 23 George B. Alban farm, Section 23; No. 8 Benjamin Bare farm, Section 36, and Nos. 30, 32 and 44 P. Alexander farm, Section 35; Nos. 22 and 23 Justice Chase, Section 10; No. 11 Peter Price, Section 11; Nos. 1, 7, 8 and 9 Mary A. Grubb farm, Section 4, and Nos. 4, 5, 10, 15 and 20 on the F. Stoker farm, Section 2.

CENTRAL OHIO

Eight completions were reported from the Central Ohio Field, 1 being a producer for 20 bbls., 2 dry holes and 5 gas wells, while new work under way showed 12 locations made and 9 started spudding, a total of 21, indicating that the average operator is looking for gas instead of oil.

In Medina County, Chatham Township, E. R. Edson Sons Co.'s No. 17 George W. Packard farm, Lot 4, showed an initial of 20 bbls. from 334-93 feet, and the same company's No. 25 Marcus A. Frank farm, Lot 20, same township, was dry in the Berea sand at 480 feet.

In Lorain County, McMillan and others staked a location for a second test on the William M. Klooz farm, Lot 90, Columbia Township.

In Wayne County, Plain Township, Bryan and others' No. 4 Clarence Alexander farm, Section 23, was reported dry in the Berea sand from 721-52 feet.

In Summitt County, White & Bacon are drilling on the Kinfield & Thornton property, Lot 47, Copley Township.

In Muskingum County, the Pure Oil Co. is drilling on the Walter E. Helriggle farm, Section 9, Brush Creek Township.

In Athens County, York Township, Baughman, Waley and others have a fair gas well on the Cheaspeak & Ohio Railroad property, Section 23, in the Clinton formation at 3,340 feet.

In Tuscarawas County, Lawrence Township, the East Sparta Caramie Co. abandoned its location for No. 3 on the William M. Evans farm, Lot 10. Status Development Co. has a rig on the Edward V. Steel farm, Section 26, Sandy Township.

Stark County

In Stark County, Lawrence Township, the Wittmer Oil & Gas Co. found an average gas well on the Samuel Myers farm, Section 15, at 3,932 feet. Dewalt and others made a location on the Moock & Czeck farm, Section 3, Osnaburg Township. Medford Oil & Gas Co. brought in a light gas well in No. 2 John C. Easterday farm, Section 35, Jackson Township, in the Clinton lime formation at 4,367 feet. Same company is drilling No. 1 W. and D. Froman farm, Section 23. Same company made two new locations, one on the John Marzelle, Section 26, and the other for No. 1 Whitmyer heirs farm, Section 5, same township. Wiser Oil Co. is drilling on the H. M. Schuffell farm, Section 1, same township, and Bettler and others staked a location on the P. L. Kirshofer and others' land, Section 10, same township. Brendall and others are drilling No. 2 William A. Haymaker farm, Section 23, and also drilling No. 2 J. C. Steiner farm, Section 16, Jackson Township.

In Fairfield County, Pleasants Township, the City Natural Gas Works is drilling No. 5 on the S. H. Anderson estate, Section 21.

In Belmont County, Somerset Township, Purdy, Peters and others have a fair gas well in No. 4 on the W. T. Lyne farm, Section 26, in the Berea sand from 1,905-15 feet. Keller and others have a rig in for No. 4 F. S. and Nellie R. Rossiter, Section 35, same township.

In Meigs County, Rutland Township, Ohio Fuel Gas Co.'s No. 3,507 J. W. Carr farm, Sections 18 and 24, shows for a fair gas well in the Maxon sand at 977 feet. Same company is drilling No. 1-5544 J. C. Chase farm, Section 34, Salisbury Township. Same company is drilling on the Seyfried farm, Section 34, same township. N. E. Martin and others are shut down at 1,450 feet on the J. G. Miller farm, Section 3, Chester Township.

INDIANA

No completions were reported from any section of Indiana, although quite a number of wells are under way over the State. A wildcat drilling by H. J. Hauck and others on the John Siddle farm, SW, Section 4, Lincoln Township, LaPorte County, and along Mill Creek about 16 miles southwest of South Bend, is reported showing a very nice gas volume at 365 feet, but is being drilled deeper.

(Continued on Page 118)

But One Producer in Eastern Fields

Southeast Ohio Also Had Only One Gas Well and One Dry Hole. West Virginia Has Four Gas Wells, None Large

By Staff Correspondent

PITTSBURGH, Pa., Aug. 31.—Southeast Ohio presented one gas well, one oil producer and one dry hole during the week. The most interesting was the gas well which is a wildcat in Jefferson County, in line with the old Black Field and the production of the Poor farm. It lies in Section 7, Island Creek Township, and is the test of the Sanders Oil Co. on the John M. Moreland heirs' farm, which found the Berea sand at a depth of 1,300 feet with a showing for 100,000 feet of gas a day.

In Monroe County, the Smith Oil & Gas Co. drilled a test on the Katie A. Smith farm in Section 20, Wayne Township, in the Lime sand at a depth of 1,265 feet. It produced 10 bbls. the first day natural. In Section 22, Union Township, Knox County, Kundtz, Hulse and Bell drilled a test on the J. H. Calopy farm to a depth of 3,040 feet and through the Clinton sand. The formation had a very small showing of oil, and the hole will be plugged and abandoned.

Drilling in Ohio

In Muskingum County, the Atha Oil Co. has its test on the Richard Huff farm in Section 3, Wayne Township, down to 3,550 feet. The same company has reached 1,950 feet in its second test on the Stark Land Co. property in Section 10, Washington Township. In Falls Township, the Atha Oil Co. has a rig ready for No. 4 on the W. H. Atha farm. In Washington Township, the Ohio Fuel Supply Co. has made a location on the H. A. Mangold farm in Section 11. In Brush Creek Township, the Hopewell Fuel Gas Co. has reached 1,500 feet on the P. Morningstar farm, Section 8, and the Pure Oil Co. has a rig ready on the W. A. Swingle farm, Section 9. In Hopewell Township, M. F. Whitehill has a rig standing for a fifth well on the Boyer farm, Section 6.

In Perry County, the Atha Oil Co. has rigged up on the John Wilkins farm, Section 17, Madison Township. The Wehrle Co. is down to 2,900 feet on the J. A. and A. J. Loughman and O. H. Hartman lease in Section 14, Hopewell Township, Licking County. In Hanover Township, of this county, William Mason has started a test on the Floyd Morrison farm in Section 16, and is down to 200 feet. In Fallsbury Township, J. W. Rutledge and others have the timbers on the ground for No. 4 on the William D. Booth farm, Section 14.

WEST VIRGINIA

Another week passed in West Virginia without an addition of an oil producer. Four scattered gas wells was the total from this field for a week's drilling and none of them was a large well.

In Cabell district, the largest gas well was brought in as a test of Wilson and Mowery on the Hans-Watts Realty Co. tract in Guyandotte district. It went to a depth of 2,980 feet and will make a fair gas well in excess of 300,000 feet a day. In Calhoun County, the Bowser Oil Co. drilled a fourth well on the W. H. Jackson farm in Center district. It is a light gas well in the Injun sand at a depth of 1,971 feet. This well has not been shot.

Lincoln County furnished two more completions. In Union district, the larger of the two wells, the United Fuel Gas Co. completed its No. 4337 at a depth of 2,375 feet and it is showing for about 250,000 feet a day. This well was on the James E. Stowers farm. In Carrol district, Louis R. Sweetland completed a test on his own property at a depth of 2,003 feet. It is a small gasser.

Drilling in West Virginia

Among the new operations in scattered districts, the following is noted: In Washington district, Boone County, Jones and Hess have started drilling a test on the Susan Hill farm and are drilling at 240 feet. In Grant district, Cabell County, the General Gas Co. is down to 1,029 feet in a second test on the Richard Chambers farm. In Lincoln County, the Martin Gas Co. is rigging up for a third well on the Elisha Bias farm in Sheridan district.

Additional work in Lincoln County is listed. In Jefferson County, Pridemore and Adkins are moving in tools on the M. S. and Tripper Miller farm. In the same section, the Turtle Lick Gas Co. is drilling on the Alice Brumfield, and Gilbert Ditson farm and the tools are down to 800 feet. In Carrol district, the Katherine Moore, administrators have reached 1,713 feet in their No. 8 on the B. F. Roberts farm, and are at present running casing. In Union district, the Woodyal Gas Co. is nearing a sand in a second test on the James Walker Adkins farm and the depth now is 2,326 feet. In Harts Creek district, Frank Yates remains shut down at 1,810 feet on his own property.

There are two new tests in Mingo County. In Harvey district, the Ohio Southern Gas Co. is building a rig on the Cowden and Workman lease. In Warfield district, Oscar Sears is down to 440 feet in his test recently started on the M. H. Waldron heirs' tract. In the same district, the United Fuel Gas Co. has its No. 4328 on the Central Trust Co. property down to 1,320 feet. This company is now rigging up to start No. 4327 on the same tract, and is building roads to locations for additional wells. In Hardee district, the same company is down to 4,510 feet in No. 4332 on the Cotiga Development Co. lease, and has a location ready for another well.

In Wetzel County, the Manufacturers Light & Heat Co. has a rig standing to drill deeper its No. 1572 on the D. W. Stewart farm in Church district. In the same district, this company is shut down at 3,142 feet on the M. Bartrug farm

(Continued on Page 76)

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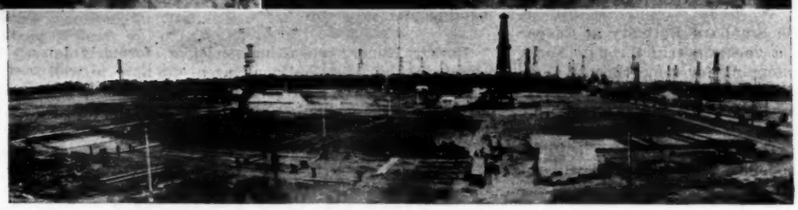

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Personal Paragraphs About Oil Men

A. M. Porter, superintendent of natural gas and gasoline plants for the Shell Oil Company, has resigned.

* * *

Robert A. Moore, Jr., of the Wall Rope Works, Inc., Tulsa, visited Houston and various Texas points last week.

* * *

H. M. Cosgrove, secretary-treasurer of the Purchasing Agents Association of Tulsa, is spending a week's vacation in Texas.

* * *

Frank F. Hill, director of production of the Union Oil Company of California, left on his annual vacation destined for the Canadian Rockies.

* * *

Thomas Sherman, California petroleum engineer, has been appointed assistant to Rush M. Blodget, general manager of the Oil Producers Sales Agency.

* * *

John R. Suman, director of the Humble Oil & Refining Company, Houston, Tex., and Mrs. Suman have returned from a vacation spent in Mexico City.

* * *

David Foote of the Standard Refinery at Casper and family left for a vacation trip through North and South Dakota, stopping for some time at their former home in Lead, S. Dak.

* * *

John K. Lytle, salesman for Frick-Reid Supply Corporation, Tulsa, is spending his vacation in Pittsburgh, Pa., where he joined his family and will return by automobile about September 1.

* * *

Luther H. White, chief geologist for the J. A. Hull Company, Tulsa, and chairman of the Tulsa Board of Education, has just returned from his yearly outing in the lake district of Minnesota.

* * *

H. C. Bretschneider, vice president of Midwest Refining Company, has been reappointed a member of the Colorado Gas Conservation Commission by Governor Adams. The new term will expire July 12, 1937.

* * *

Luis Lowenthal, who had been general manager of "Astra" Compania Argentina De Petroleo Sociedad Anonima, Buenos Aires, Argentina, since the company was organized, has resigned for reasons of health.

* * *

Gillette Hill, who recently went to Houston, Tex., as executive vice president of the Moody-Seagraves interests, has resigned that position. Mr. Hill formerly was vice president of the Phillips Petroleum Co., Bartlesville, Okla.

* * *

R. D. Saunders, president of the purchasing agents association of Fort Worth, and formerly with the Southern Crude Oil Purchasing Co., has been appointed divisional purchasing agent of Stanolind Oil & Gas Company at Fort Worth.

* * *

President E. G. Seubert and officials of the Standard Oil Company of Indiana made an inspection trip to the Denver offices of the company recently. Other members of the party were A. L. Peake, vice president; C. L. Barkdull, treasurer, and Amos Ball, general manager.

* * *

Dana Hogan, manager of lands for the Petroleum Securities Company and vice president and manager of the Los Nietos Producing & Refining Company, has retired from active service with the Doheny interests after 19 years and is making preparations to leave for a European vacation within a few weeks.

* * *

J. H. Reynolds, vice president of Cranfill-Reynolds Company, Houston, Tex., has resigned from his connection with that company. He has been succeeded by Stewart Snyder, assistant superintendent of the Sun Oil Company, Beaumont, Tex. Mr. Snyder has been associated with the Sun for more than 12 years.

W. P. Z. German, chief counsel for the Skelly Oil Company, Tulsa, is taking a much needed rest in the Ozarks of Arkansas.

* * *

B. A. Hardie, of Shreveport, La., and Dodge City, Kans., who is associated with the Moody-Seagraves interests, spent several days in Houston, Tex., on business.

* * *

Carl L. Fouts, Houston, Tex., scout for the Vacuum Oil Company, Gulf Coast district, spent a two-weeks' vacation visiting his former home in Tennessee.

* * *

C. A. James, assistant to W. C. Thomas, assistant general manager of the southwestern division for the Vacuum Oil Company, Houston, Tex., spent a two weeks' vacation on a trip through West Texas.

* * *

P. C. Murphy, assistant to the president of the Humphreys Corporation, Houston, Tex., has resigned that position and has become associated with the W-K-M Company, manufacturer of oil field equipment.

* * *

Dorsey Hager, consulting geologist, formerly located in the Mid-Continent area, is now a well known geologist in Seattle, Oregon. He has been assembling acreage in the Willamette Basin, in Oregon.

Men of the Industry

Roy R. Ayers

Roy R. Ayers, vice president and general manager of the Garber Refineries, Inc., has spent his entire business life with this company. Starting as a bookkeeper, he served in various capacities until he was placed in active charge of operations.

Mr. Ayers was born in Green City, Mo. He started taking an electrical engineering course at Oklahoma A and M, leaving the school to enter the army during the World War. His service included nine months in France.

In 1919 after his discharge from the army Mr. Ayers entered the employ of the Garber Refineries, Inc., in Garber, Okla., where the company operates a refinery with a capacity of 3,500 bbls. of crude oil daily. He became secretary and treasurer of the company in 1921 and in 1924 was made general manager. He was elected a vice president of the company last year. Under his supervision the refinery has been enlarged so that the plant now has a well-balanced skimming and cracking operation.

Wallace E. Pratt, director of the Humble Oil & Refining Company, Houston, Tex., and Mrs. Pratt have been making a short vacation trip in West Texas.

* * *

Karl E. Young, consulting paleontologist and geologist, Houston, Tex., has returned to his home following an extended trip in California, where he did some consulting work.

* * *

Julio Canessa, a petroleum engineer representing the Argentine government, is visiting in Tulsa and in other Mid-Continent points to acquaint himself with American refining practices.

* * *

Charles L. Reed, chief of scouts in the Rocky Mountain region for the Gypsy Oil Co. (Gulf Corporation), Mrs. Reed and family have returned from a visit to their former home in Okmulgee, Okla.

* * *

Donald C. Barton, consulting geophysicist and geologist, Houston, Tex., has been spending a short time in the east where he met Mrs. Barton who has been visiting in Boston and New York since earlier in the summer.

* * *

C. C. Carlisle, petroleum engineer for the Prairie Oil & Gas Company, Tulsa, is making a vacation trip westward through Idaho to the Pacific Northwest where he is to meet Mrs. Carlisle. They will both return to Tulsa about September 1.

* * *

F. J. Keleher has been appointed secretary and treasurer of the Stanolind Oil & Gas Company, with headquarters in Tulsa, to succeed A. M. McCorkle. J. B. Galbraith has been appointed general auditor and assistant treasurer to succeed F. J. Keleher.

* * *

Dr. Parker D. Trask, of Washington, D. C., in charge of the research department of the American Petroleum Institute, spent several days in Oklahoma last week conferring with technologists of different oil companies interested in research work of the institute.

* * *

C. G. "Curt" Hammill, president of the Hammill Drilling Company and associated companies, Houston, Tex., has returned from a three-months trip abroad. Accompanied by Mrs. Hammill, he spent some time in London, the home of his daughter, and also toured on the continent.

* * *

A. H. Brown, formerly superintendent of operations for the Union Oil Company in the Brea Olinda district and at present president of the Oil Field National Bank of Brea, recently organized the Brea Olinda Oil Company, which has several hundred acres of property in the Fullerton Field of Los Angeles Basin.

* * *

R. R. Corey of Independence, Kans., secretary to John Fertig, vice president and general manager of the Producers & Refiners Corp., and Mrs. Corey spent a few days visiting friends and relatives in Casper, Wyo. Mr. Corey formerly was with the Continental Oil Company when the Continental had a branch office of the producing department in Casper.

* * *

F. W. Bayley, L. S. Klink, F. O. Pressey, W. J. Robertson, and Laft Todd have a quarter of a century of uninterrupted service with the Union Oil Company and are wearing service pins with three rubies in recognition of that service. There are at present approximately 30 employes who have served the Union Oil Company 25 years or longer.

* * *

A. M. McCorkle, vice president of Stanolind Oil & Gas Company, with former headquarters in Tulsa, has been transferred to Fort Worth, Tex. He will be in charge of the Texas operations. The company has recently opened an office there and moved several of its personnel to handle all of its Texas activities. R. H. Feltner, has been appointed assistant secretary with headquarters at Fort Worth.

Natural Gas Industry Developments

NATURAL GAS SUPPLY FOR NASHVILLE PLANNED

NASHVILLE, Tenn., Aug. 31.—Proposing a reduction of gas rates for both domestic and commercial consumers, the Nashville Gas & Heating Co. filed a petition before the State Railroad and Public Utilities Commission asking approval of the contracts, franchises, agreements and charters of the Missouri-Kansas Pipe Line Co., the Kentucky Natural Gas Co. and itself for bringing natural gas into Nashville immediately from the western Kentucky fields.

The gas company's proposal provides that the consumers will receive the benefits of the decreased rates immediately following the completion of the installation of the equipment and pipe lines for transportation between the Kentucky Field and Nashville. Tuesday, September 8, was set by the commission for the hearing which will decide whether natural gas is to be brought into Nashville immediately.

The new rate as outlined in the petition is as follows: First 100 feet per month, $1; next 2,900 feet per month, $1.30; over 3,000 feet per month, 80 cents.

Commercial and industrial prices are correspondingly lowered. Under the present scale, Nashville gas consumers pay: First 400 feet or less per month, $1; next 9,600 feet per month, $1.60; next 20,000 feet, $1.20; over 50,000 feet, 80 cents.

It is set out in the petition that while the new rates are slightly increased for the occasional user that the rate will be substantially decreased for the regular consumers and for the commercial and industrial users.

The petition also sets out that Nashville consumers have paid abnormal gas rates for many years and attributes the excessive rate to the fact that the city assessed a 5 per cent gross income tax upon the business of the local company, in addition to other heavy taxes and the large cost of manufactured artificial gas from coal and coke and other finer grade oils.

The Nashville company, in the petition, pledged itself to give to the consumers the benefits of future reductions in cost of production and distribution, including the use of natural gas exclusively instead of as an "enricher," as used at present.

SEARCH FOR HELIUM IN INDIA

NEW YORK, Aug. 31. — The Indian Geological Survey has made an appropriation for an investigation into the helium content of natural gas produced in India, according to reports from London. Research in India is in line with the effort of the British government to develop production of helium on a commercial scale as part of its airship development program. Experiments conducted during the world war disclosed that the natural gas of Trinidad had a helium content of 2 per cent, and considerable quantities have been located in the Turney Valley, Canada, and Ceylon natural gas production.

OKLAHOMA CITY VOTE

The Oklahoma City Council has set October 27 for election on an amended franchise proposal of the Oklahoma Natural Gas Corp., which provides the city may buy the Oklahoma Natural Gas plant at any time before the present franchise expires, in October, 1934.

Delay in the gas election, originally set for September 22, had been asked by W. P. Canavan, vice president of the Oklahoma Natural Gas Corp., which recently reduced state rates to 45 cents per 1,000 feet. Vote on the amended gas election ordinance was unanimous.

HELIUM FOR GIANT AIRSHIP AKRON SUPPLIED BY BUREAU OF MINES PLANT

The new giant naval airship, "Akron," depends for the helium used in its navigation on the Government plant near Amarillo, Tex., which was designed and constructed and is operated by the U. S. Bureau of Mines, Department of Commerce. More than 6,000,000 feet of this rare noninflammable gas has been shipped from the Amarillo plant, which is operated under the supervision of Scott Turner, director of the Bureau of Mines, and R. A. Cattell, chief engineer, helium division. The plant is in direct charge of C. W. Seibel, supervising engineer.

Although the establishment at Amarillo has been in operation only a little more than two years, it has produced more than 22,000,000 feet of helium at an average net cost for that period of $11.47 per thousand feet. An indication of present improved plant performance, brought about through experience in plant operation and improvements in process and equipment constantly introduced is given in production figures for June, 1931, when the net cost of $5.95 per thousand feet was attained.

Not more than 16 years ago, helium was an extremely rare gas, only a chemical curiosity. There was not a cubic foot of it in the United States, though small amounts had been sold at the rate of $2,500 per foot. At that price, to have filled a ship the size of the Akron would have cost more than $16,000,000,000. The present cost of production is a good example of what may be accomplished by applied research.

The late Dr. R. B. Moore, who at the time was superintendent of the Bureau of Mines experiment station at Golden, Colo., was instrumental during the World War in interesting the Army and Navy in the possibilities of helium-filled lighter-than-air craft. As a result, three experimental plants were constructed and at the time of the armistice some 150,000 feet of helium were on the docks at New Orleans en route to the front.

Prior to the advent of helium for lighter-than-air craft, hydrogen found universal use for this purpose. Hydrogen is, of course, inflammable, and when mixed with certain percentages of air, is explosive. In all former airships of this type, the motors have been suspended below the main body of the ship in power cars, called gondolas. This was necessary to remove, as far as possible, the chance of the motor exhaust igniting hydrogen leaking from the ship. On the Akron, due to the use of nonflammable helium, the motors have been placed in the body of the ship, thereby decreasing wind resistance and increasing speed. This also obviates the necessity for the crews to climb up and down open ladders from ship to gondolas when the watch is changed.

The Bureau of Mines helium plant at Amarillo, which furnishes all of the helium for the Army and Navy, is one of the Government's most self-contained units. When present negotiations are completed the bureau will own the gas rights in an entire virgin gas structure underlying some 50,000 acres. A government owned and operated pipe line conveys gas from this field to the plant, a distance of about 12 miles. The high rock pressure of this structure obviates the necessity of doing any compression on the gas.

Much of the apparatus within the plant proper has been built in the plant shops, and all repair work so far necessary has been taken care of by its personnel. Electrical power for use in the entire establishment is produced by means of gas-engine-driven generators. Two deep water wells, with turbine pumps, furnish water for all purposes. The plant maintains its own fire department and is well equipped with separate, high-pressure fire mains, chemical wagon and other similar apparatus. The sewerage system for the entire plant, designed for the bureau by the United States Public Health Service, operates with high efficiency. Many analyses of the discharge of the septic tank, as determined by the Amarillo city laboratory, have shown an absolutely sterile effluent. Outside of a few easily obtained raw materials such as lime, lubricating oils, pipe fittings, etc., the helium plant is not dependent on any outside agency for successful operation.

Since the gas field is estimated as being good for many years to come, and only about one-half the production plant capacity has yet been needed to meet government requirements, the Army and Navy are assured of an ample supply of this once rare gas for their lighter-than-air activities.

APPALACHIAN ACQUIRES EMPIRE CORPORATION

O. H. Simonds, president of Appalachian Gas Corp., and Floyd W. Woodcock, president of Empire Corp., announce the acquisition by Appalachian Gas Corp. of a controlling interest in Empire Corp. Mr. Woodcock will continue as president of Empire Corp., and will be elected a director and vice president of Appalachian Gas Corp.

The operating companies in the Appalachian Gas Corp. group constitute one of the larger natural gas operations in the United States and produce or transport natural gas in the states of Texas, Louisiana, Arkansas, Mississippi, Tennessee, Kentucky, West Virginia and Ohio. In March, 1930, control was acquired by the Appalachian of Ohio Southern Gas Co., Wayne United Gas Co., Ohio Valley Gas Corp., Ohio Kentucky Gas Co. and 36 per cent of the common stock of Allegheny Gas Corp., all in the Appalachian natural gas field. This was followed by acquisition of control of Texas Gas Utilities Co., with properties located in the Rycade Field of Texas. A common stock interest amounting to 47 per cent was acquired in Memphis Natural Gas Co. West Virginia Gas Corp. was the next addition to the group, with the acquisition of a 93 per cent common and preferred stock interest. This year's acquisitions include Commonwealth Gas Corp., Monroe Consolidated Gas Co. and Union Management & Engineering Corp. Gross business of Appalachian Gas Corp. group companies, including Empire Corp., for the year ended May 31, 1931, was 54.2 per cent natural gas.

GAS SALES THIS YEAR

During the first six months of the year revenues of manufactured and natural gas utilities declined 3.7 per cent, while gas sales dropped 7.1 per cent, compared with the first half of 1930, according to reports to the Statistical Department of the American Gas Association from companies serving 13,659,000 customers and comprising nearly 90 per cent of the gas utility industry.

Natural gas utilities reported aggregate revenues of $160,798,000, drop of 5.9 per cent, and total sales of 370,980,000,000 feet, a decrease of 9.7 per cent. In the first quarter natural gas revenues were down 6.3 per cent and natural gas sales 10.9 per cent compared with the corresponding period of 1930. Natural gas sales declined sharply in several states of the Mid-Continent and southwestern area, while sales in California dropped only 3.4 per cent.

CHICAGO RATE REDUCED BY PEOPLES GAS LIGHT

CHICAGO, Aug. 31. — Based on the present volume of business, gas rate reductions totaling $1,434,000 annually are made in a new rate schedule filed with the Illinois Commerce Commission by the Peoples Gas Light & Coke Co.

By the general rate in the new schedule, the price of gas to 97 per cent of the customers of the Peoples Gas Light & Coke Co. is reduced 3½ per cent. The biggest reduction is in the charge for gas for house heating purposes, which is cut 22 per cent. Upward of $1,100,000 of the reduction in the company's revenue goes to the domestic customers and others who come under the above classifications.

All of the new rates are for application to the blend of natural and manufactured gas with a heating value of 800 B.t.u. per foot instead of the present 530 B.t.u. heating value. Subject to the approval of the commerce commission, the new schedules will go into effect October 1. It is expected that hearings on the schedule will be commenced when the commission reconvenes next month.

The house heating rate, which is equivalent to 61 cents a thousand feet for the present gas instead of the current rate of 78 cents a thousand, and an "interruptable" industrial rate, are important features of the new schedule.

SUSQUEHANNA GAS CO. ASKS RIGHT TO EXPAND

HARRISBURG, Pa., Aug. 29. — The Susquehanna Gas Co., a subsidiary of the Pennsylvania Power & Light Co., has asked approval of the Public Service Commission for the extension of its territory of supply to include drilling and production rights in McKean, Cameron and Wayne Counties.

They have also asked authorization of the enlargement of its pipe line system to connect all points of supply with places where natural gas is to be furnished. The operation of the natural gas company, the application states, will be financed by advances from the Pennsylvania Power & Light Co.

The Susquehanna Gas Co., originally organized by the Pennsylvania Power & Light Co. officials under the name of Pennsylvania Natural Gas Co. now has the right to produce natural gas in eight counties: Potter, Tioga, Bradford, Susquehanna, Clinton, Lycoming, Sullivan and Wyoming. Its present charter permits it to supply gas in all or sections of Carbon, Clinton, Colombia, Lycoming, Monroe, Montour, Northumberland, Union and Wayne Counties.

WICHITA FALLS RATE

WICHITA FALLS, Tex., Aug. 31.—The ordinance reducing the gas rate here has been passed on final reading. It establishes a rate for domestic gas of 50 cents per thousand feet instead of the present 75-cent rate. It also does away with the present 50 cents a month service charge. The new rates would become effective October 1 under the new law. It provides a 10 per cent reduction of the monthly gas bill for prompt payment.

YARMOUTH FRANCHISE

CHATHAM, Ontario, Aug. 31.—Application will be made on September 11 to the Ontario Railway and Municipal Board for approval of a transmission and distribution franchise granted by Yarmouth Township, in Elgin County, to the Southern Ontario Gas Co. The application is being opposed by the city of St. Thomas.

Pennsylvania Railroad Puts 150 New Electric Locomotives On Timken Bearings

150 of the electric locomotives to be built for the Pennsylvania Railroad's New York-Washington electrification project will be equipped with Timken Bearings on all driving wheels and engine truck axles.

90 of these locomotives will be of the P-5 class, 3,750 H.P., designed for a speed of 90 miles per hour in passenger service. The other 60 will be of the L-6 class, 2,500 H.P., for freight haulage.

The selection of Timken Bearings for this important new equipment foreshadows the universal use of anti-friction bearings on all types of locomotives and railway rolling stock.

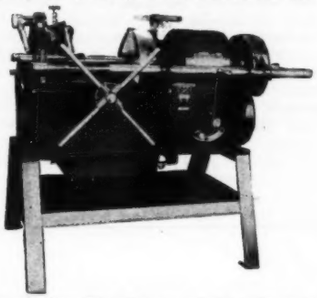
This is the largest order for anti-friction bearings ever placed by any railroad at any one time. The Timken Roller Bearing Co., Canton, Ohio.

TIMKEN *Tapered Roller* **BEARINGS**

Oil Industry Equipment and Supplies

TOLEDO ANNOUNCES PIPE MACHINE OF NEW DESIGN

The Toledo Pipe Threading Machine Co., Toledo, Ohio, has announced the new Toledo No. 1-2-4, a high-speed, high-production 1-inch to 4-inch power pipe machine, radically different in design. The frame is all-steel. The machine is equipped with eight quick-opening die heads and dies, one for each size of pipe, which permits instant change of dies from one size



to another. The dies are of the rake type, made from high-speed steel and easily reground. The cutter head is of special design with four high-speed steel cutter knives cutting simultaneously. The manufacturer says 4-inch pipe is cut off in 9 seconds, threaded in 42 seconds; 2-inch pipe cut off in 3½ seconds and threaded in 18 seconds. The quick-opening die heads permit instant release of dies after threading.

The reamer is a cone type with single high-speed steel cutter blade, mounted on an arm which can be instantly swung into position for reaming and fed by carriage hand wheel. The single blade is easily reground. Six spindle speeds are obtained through one clutch lever and gear-shifting lever. The gears and friction clutch run in oil.

A centrifugal oil pump positive in action gives ample flow of oil on the dies and cutter knives. The reverse is electrically controlled by the switch. Short nipples without nipple chuck may be produced and the rear chuck is fitted with special jaws for gripping flanges and pipe tong supports for screwing up fittings. The machine occupies a floor space of 2 feet 11 inches by 3 feet 10 inches and its net weight is 1,750 pounds.

ADDITIONS TO WELDING LINE OFFERED BY LINDE

The Linde Air Products Co., 30 East Forty-second Street, New York, has made two new additions to its line of Purox medium pressure apparatus for oxy-acetylene welding and cutting.

The new Purox No. 11 welding torch, which supersedes the Purox No. 10, has a wide welding range extending from the lightest sheet metal up to work as heavy as one-half inch plate. In spite of this wide range the torch is light in weight and has perfect balance. The tips are of one-piece, hard-drawn copper construction and are so designed that the head angle can be easily adjusted as desired by the user. Tips Nos. 2, 4, 6, 8 and 10 are furnished as standard equipment.

The Purox No. 21 cutting attachment designed for use with the Purox No. 11 welding torch will cut metal up to 2 inches in thickness. It is furnished with one and two-piece Purox cutting tips. By means of this cutting attachment the welding torch can be converted easily and quickly into a cutting torch. This cutting attachment weighs only 1 pound 8 ounces. An adaptor also is available which makes it possible to use the Purox No. 21 cutting attachment with the Purox No. 20 welding torch.

NOTES ABOUT TRADE LITERATURE

A 32-page booklet published by the Foxboro Co., Foxboro, Mass., is a general bulletin serving as an introduction to the company's line of controlling, recording and indicating instruments for temperature, pressure, humidity and flow.

A booklet which contains many illustrations of typical fence installations, has been published by the Page Fence Association. It also contains various style sheets of chain link and wrought iron picket fences. This booklet, "The Border Patrol," may be had by addressing the Page Steel & Wire Co., Bridgeport, Conn.

Wire rope and wire for a multitude of uses are described in an attractive book of 280 pages, with flexible covers, published as the catalog of the John A. Roebling's Sons Co., Trenton, N. J. Drilling cables and rope for all oil field purposes are included.

The C. J. Tagliabue Manufacturing Co., of Brooklyn, N. Y., has announced the completion of a new general catalog of more than 100 pages, covering the complete line of Tag controllers, recorders, dials, thermometers, hydrometers, oil testing instruments and moisture meters. This catalog will be of value in the reference library of executives and the company will send a copy if request is made on the applicant's business letterhead.

"How Armco Ingot Iron Saves in the Oil Industry" is the title of a 32-page booklet prepared by the American Rolling Mill Co., Middletown, Ohio. "Fighting Corrosion" is the subject of the opening pages.

The Lonergan line of power plant specialties is described in a 92-page illustrated catalog issued by the J. E. Lonergan Co., Philadelphia, Pa.

The Cooper-Bessemer Corp., Mount Vernon, Ohio, has issued two bulletins which give complete information about the Type GA single and twin-cylinder pumping and drilling engines built by that company. The first covers the single-cylinder engine, rated 25 to 60 brake horsepower. The second deals with the twin-cylinder "deep hole" engine, rated 65 to 130 brake horsepower.

A 4-page circular distributed by the Allsteel Products Manufacturing Co., Wichita, Kans., describes the Decker cable guard for use on caterpillar tractors.

The Roots-Connersville-Wilbraham division of the International-Stacey Corp., Connersville, Ind., has issued four new bulletins covering standard and heavy duty blowers and gas pumps. These bulletins supersede all former bulletins on these products issued separately by the P. H. & F. M. Roots Co. and the Connersville Blower Co., Inc., both of Connersville, Ind., and the Wilbraham-Green Blower Co. of Pottstown, Pa.

Among articles in the current number of "Drilling Mud," published by the Baroid Sales Co., Los Angeles, Calif., is one telling how viscosity control of drilling mud speeds up operations.

An exceptionally attractive loose-leaf catalog of 120 pages is being distributed by the Webster Engineering Co., Tulsa. It is devoted to gas burners, combination gas and oil burners, kiln burners, fuel governors, damper control system, orifice meter and pump sets. Helpful engineering information is given.

A 112-page booklet from the Mercoid Corp., 4201 Belmont Avenue, Chicago, is devoted to automatic controls for heating equipment and industrial applications.

GE INTRODUCES LINE OF STEAM GENERATORS

The General Electric Co. announces a line of electric steam generators for application anywhere in industry where steam is needed but is not available in sufficient quantities or at suitable pressure. The line includes two pressure ratings—100 and 200 pounds—in various sizes and electrical ratings.

The standard unit consists of a steel container in which helicoil sheath-wire immersion heaters are inserted. The generator is provided with standard boiler fittings, including a safety valve, steam gauge, water column, blow valve, steam valve, etc. A typical control equipment consists of a magnetic switch and an automatic pressure governor which, when operated in conjunction with a low-water alarm, automatic heat-shut-off switch and some device for automatically feeding additional water to the generator, makes the equipment completely automatic in operation and obviates necessity of supervision except for the periodic inspection ordinarily given to any electric apparatus.

Applications for this equipment include automizing oil for oil burners, hot-water tanks, oil tanks, paraffin tanks, plate-bending rolls, steam heat, automobile washing machines, evaporating plants, laboratory steam generators, etc.

SILENT AUTOMATIC PUTS NEW HEATER ON MARKET

The Silent Automatic Corp. of Detroit, Mich., has brought out a new oil-burning water heater with capacity of 75 to 100 gallons of hot water per hour. Its construction combines the economy of the automatic storage water heater with the quick action of the flash type, the manufacturer says. It comes in two sizes Models 30 and 50. This new water heater is sturdily built throughout and has a tank that is heavily insulated and enclosed in a steel jacket. The cone-shaped combustion chamber has a nest of quick acting flash water tubes and this assembly provides efficient operation with a minimum of fuel consumption. The walls of the water jacket are of heavy copper bearing and highly rust-resisting flange steel.

The burner is installed within the heater with the rotating head extending through an opening in the center of a hearth of refractory material which encloses the bottom of the combustion chamber. A wiping type of wall flame is evenly distributed around the combustion chamber and burns at the base of the heat absorbing surfaces, as well as against the conical wall of the water leg.

Crane inverted open-float steam traps are explained in an 8-page circular issued by the Crane Co., 836 South Michigan Avenue, Chicago.

PACKER AND SWAB ARE ACQUIRED BY SHAFFER

The Shaffer Tool Works, Brea, Calif., has taken over the manufacture and sale of the Phipps non-vulcanizing packer and the Phipps improved swab. The Shaffer-Phipps non-vulcanizing packer is designed to assure a perfect initial seal as well as to permit repeated releasing and resetting without sacrificing efficiency. Expansion and wedging action is prevented by a special design which releases the packer by pulling upward directly upon the packing element. Any upward movement of the packer serves to pull the packing assembly inward from contact with the casing and elongates it sufficiently to assure release therefrom.

Phipps Improved Swab.

The makers say that the Shaffer-Phipps improved swab prolongs and protects the life of the swab rubbers which are most sensitive and subject to wear. This has been accomplished, they say, through a reversible construction assuring double wear, and by a patented cup arrangement covering worn surfaces through adjustment, presenting new rubber contact or sealing surfaces. Greater clearance and increased strength are said also to have been gained. Descriptive literature will be sent by the company upon request.

MONOBLOC PUMPING UNIT MADE FOR WIDE SERVICE

The Monobloc (Type D) centrifugal unit recently placed on the market by the Worthington Pump & Machinery Corp., Harrison, N. J., is bolted to the extended motor frame and the impeller is mounted on the end of the continuous motor shaft. The bronze impeller incorporates the shaft sleeve as an integral part. The special cadmium-plated steel locking device for the impeller, the forged bronze packing gland and the arrangement of shaft water-throwers are other features of this pump. The ball-bearing Masterbilt motor, designed especially for Worthington, incorporates standard electrical construction. The applications of this new unit include the petroleum industry and general industrial service.

NATIONAL TRANSIT ENLARGING

The National Transit Pump & Machine Co., Oil City, Pa., has moved its Tulsa branch office from the Kennedy Building in that city to a two-story building at 318 East Archer Street, where an office and warehouse now are conducted under one roof. The warehouse is being stocked with pumps, parts and various oil field appliances manufactured by the company, which will make Tulsa its main distributing point for the Mid-Continent region. The company has increased its facilities in Oil City by additions of machinery, buildings, etc., so that it is in a position to make prompter shipments. W. C. McLeod, district manager, is in charge of the Tulsa headquarters.

Gov. Murray Wants to Meter Oil Wells

Proposes Plan to Check Production but Industry Wonders How He Will Surmount Mechanical Difficulties

By L. G. E. Bignell
Petroleum Engineering Editor

It is reported that Governor William H. Murray, of Oklahoma, has recently proposed to Chairman Paul Walker of the Corporation Commission of that State that four major changes be made in the rules of the commission governing the proration of oil produced within the State, the principal recommendation being the unitization of each common pool by a law to be enacted by the legislature that would make it compulsory to place the pool under unit control.

The changes are summarized as follows:

"1. Unitization of each common pool, allowing each producer from a common pool to take his prorata share of the oil, regardless of the size of the wells.

"2. Place a state meter on each producing well, have it sealed by the state, read by state employes and thus make sure no one producer takes more than his share from the unitized common pool.

"3. Assess each producer one-tenth of 1 per cent to pay the cost of maintaining unitization and proration with a provision that any excess should be returned to the producers proportionately.

"4. The governor and the corporation commission to select umpires and field men above reproach and above price to enforce these and all other orders."

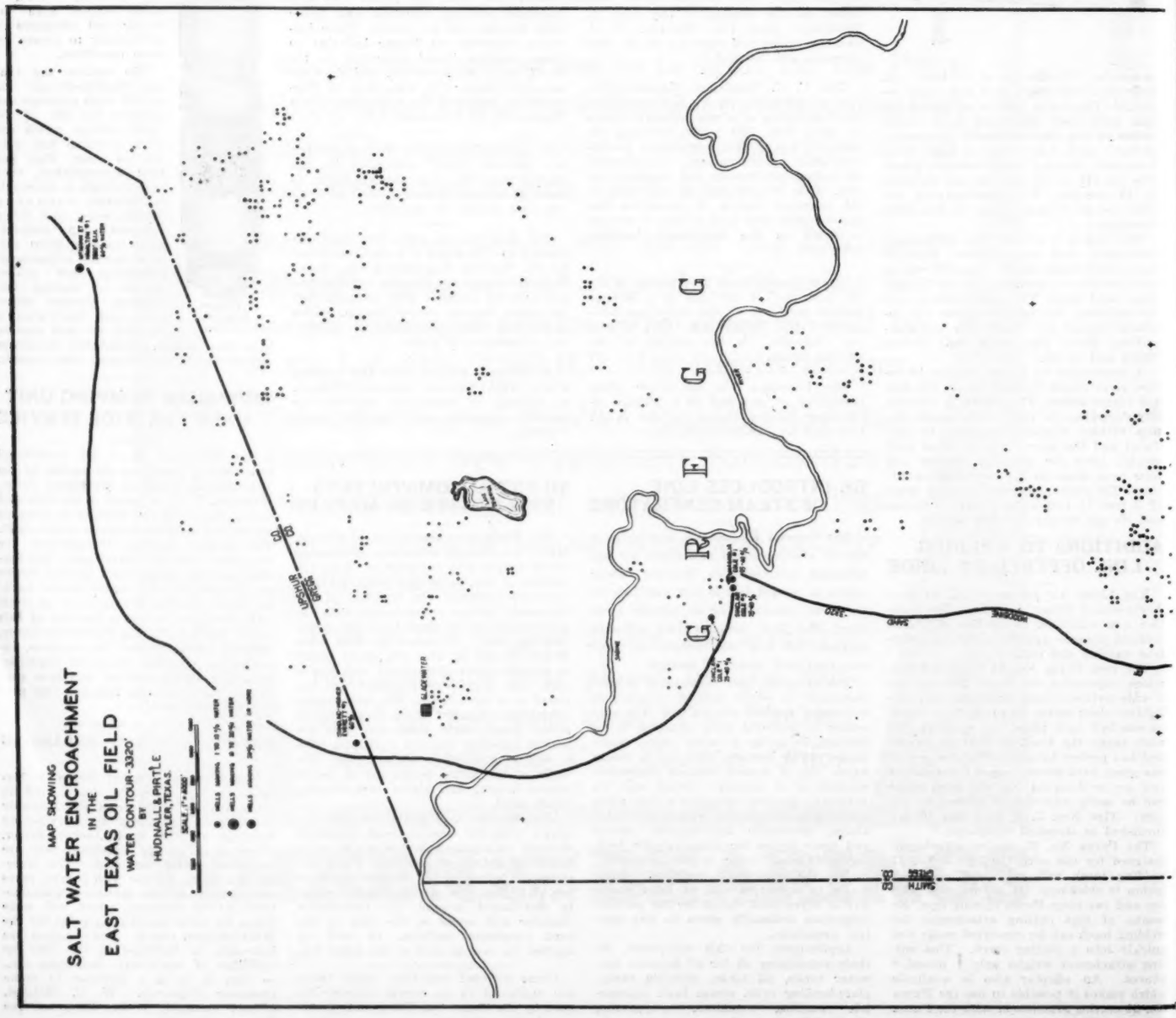
The unit control of oil pools has long been recognized by the leaders of thought in the oil industry as presenting the best solution to the many ills that have been so common to the industry in the past to relieve it of the ever recurring periods of excess production with lowering prices.

The Oil and Gas Journal has sponsored this idea and has been publishing a series of carefully prepared articles on unit operation by Earl Oliver, chairman of the A.I.M.E. Unit Operation Committee, and W. P. Z. German, chief counsel for the Skelly Oil Co., Tulsa, the first appearing in the issue of July 23.

Among the principles set forth in these articles are "That the State in its function of preventing waste of natural resources may require and prescribe efficient methods of exploiting oil and gas fields," and "That authority should be delegated to a state agency to formulate rules and regulations from time to time for the application and enforcement of these principles."

In January, 1927, E. W. Marland proposed what has since been known as the "Marland Bill" for consideration by the Oklahoma legislature. It proposed that the gas-oil ratio from all wells be so regulated that uniform recovery would accrue to all producers in a pool. While sound in theory it was found by examination to present so many conditions that had to do with its enforcement that it was declared unworkable by many operators. It was also pointed out that the expense that would be incurred in

(Continued on Page 69)



Salt Water Encroachment in East Texas

Geologist Claims Danger From This Factor Is Not Alarming Considering All the Development Features

By J. S. Hudnall

Every major oil pool that has been discovered in the Mid-Continent Field has in its early stages of development had threats of water encroachment. When the outer limits of any pool are being defined salt water is encountered and due to the pool having virgin pressure the water flows in abundance. The salt water wells are usually about as large as the oil wells in the same pool. Such large producers of salt water act as threats to the producer and royalty owners with the result that the small investor, particularly those who are new in the oil business, begin to inquire as to how soon their property may be endangered by water encroachment.

The danger from salt water intrusion in the East Texas Pool is not at all alarming. Considering the number of wells drilled, the manner in which they are operated and the amount of oil that has been produced the salt water problem is small.

Mr. Hudnall has had 13 years' field experience in geology. During the past six years he has been doing consulting work in partnership with G. W. Pirtle. In February of this year the firm instituted a geological information service in Tyler, Tex., and has made an extensive study of conditions in the East Texas area.

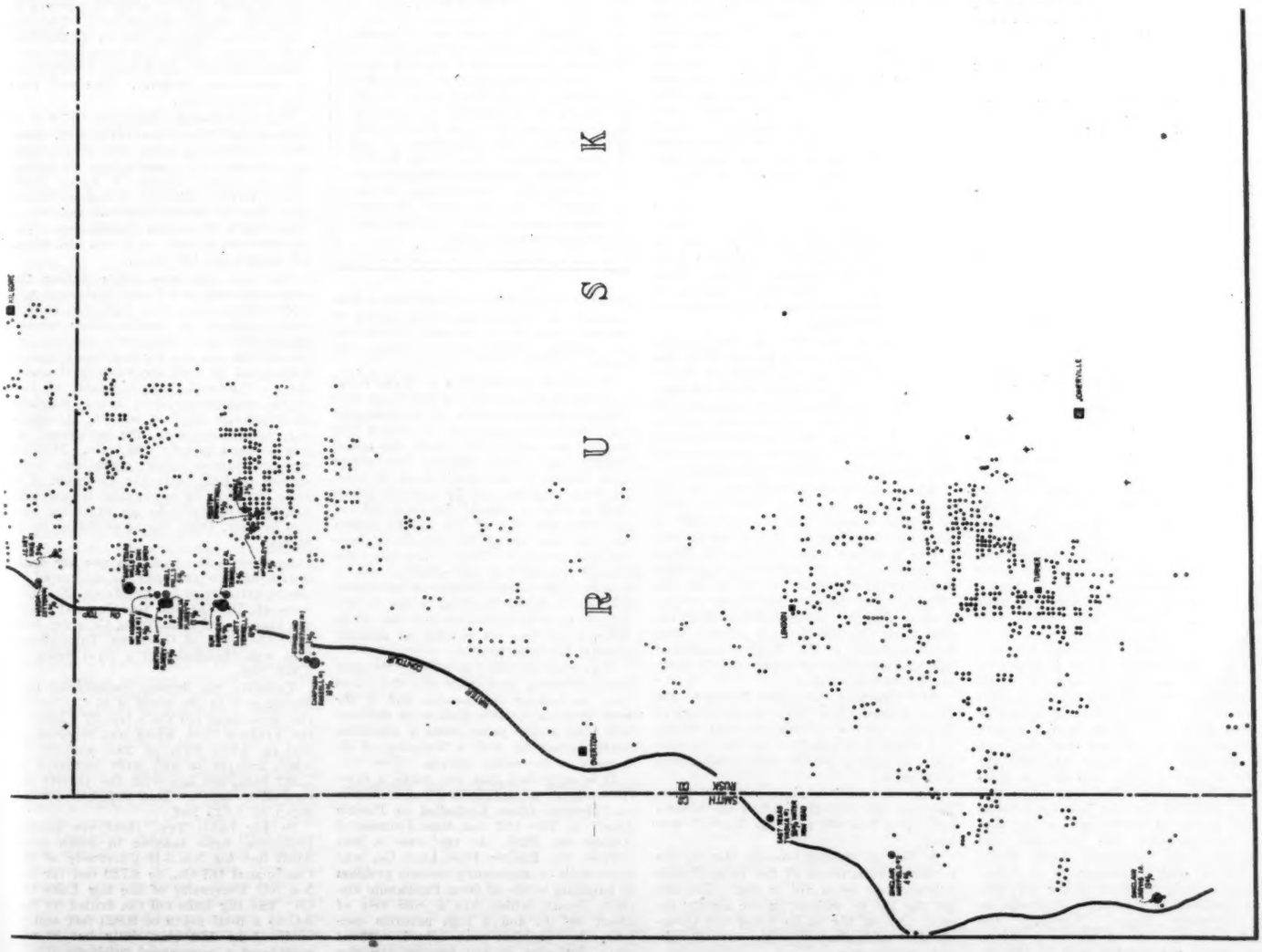
The first evidence of salt water in the field was found in Magnolia Petroleum Co.'s No. 1 Florey, which was soon followed by the Burton Drilling Co.'s No. 1 Florey offsetting the Magnolia well to the north. Since the drilling of these wells approximately 22 wells have been drilled which are producing from 1 per cent to 40 per cent water. The location of all of these wells is near the west or north edge of the pool with a few exceptions and the datum on the bottom of the hole is near the 3,320-foot subsea level. The accompanying table is a complete summary of the water production at the present time in the field.

Well—	Total daily prod. in bbls.	Per cent b.s.&w.	Elevation	Datum top of sand	Datum bottom of hole	Remarks
KILGORE AREA						
Burton Drlg. Co.'s No. 1 Florey	480	15%	347	3,363	3,382	Crooked hole
Brown & Wilson's No. 1 Terrill	500	2%	...	....	....	
Chapman's No. 1 Russell	900	18%	337	3,335	3,340	Dead
East Texas Ref.'s No. 1 Wills	....	60% max.	...	....	....	Plugged back 14 ft.
Elliott's No. 1 Terrell (total prod.)	48,000	18%	434	3,348	3,330	Abandoned
Humble's No. 7 Crim	1,500	3%	367	3,263	3,315	
Houston Oil's No. 2 Brightwell	220	1%	341	....	....	
K. & P.'s No. 1 McNeely (Brock)	1,000	1%	382	3,265	3,338	
Key's No. 1 King	....	3%	354	3,283	3,294	
Magnolia's No. 1 Florey	160	12%	331	3,306	3,325	
Magnolia's No. 1 Cole	....	25 to 40%	263	3,321	3,323	Shut in
McMahon's No. 1 Wills	800	6%	348	3,312	3,315	
Mazda's No. 1 Cotton	400	6%	338	3,312	3,321	
Sinclair's No. 1 Cole	(*)	25 to 40%	328	3,310	3,311	
Sinclair's No. 5 Cole	(*)	25 to 40%	262	3,319	3,324	
Stanolind's No. 1 Christian	350	1%	...	....	....	
Sun Oil's No. 1 Barker	170	1.6%	433	3,313	3,315	
JOINER AREA						
East Texas Ref.'s No. 1 Tyaska	200	†50%	526	3,312	3,315	Dead
Sinclair's No. 1-A Jarvis	170	10%	394	3,305	3,315	
Sinclair's No. 2-A Mayfield	120	4%	546	3,297	3,305	
LATHROP AREA						
Stanolind & Weaver's No. 1 Everett	219	60%	292	3,323	3,327	
McMahon's No. 1 Hamilton	(‡)	60%	437	3,322	3,327	Testing
De Armond's No. 1 Cobb	(§)	....	423	3,364	....	

*Shut in. †Last report. ‡2,800 ft. fluid in hole. §Show oil and water flow.

Conclusion

The water encroachment in the East Texas oil field is at present limited to the wells which have been drilled to a total depth of approximately 3,310 to 3,320 feet, sub-sea level. There is nothing alarming or threatening about the rapidity of its intrusion. Theoretically the water table should rise in level 1 foot for every 30,000,000 bbls. of oil extracted. To date there has been 56,000,000 bbls. of oil produced which would raise the water table approximately 2 feet. The most successful way of operating to prevent water trouble is to refrain from drilling to a greater depth than 3,290 feet, sub-sea. At the present time there are approximately 1,500 producing wells completed out of which 22 are producing an injurious amount of water. The total production is less than 1,000 bbls. per day.



Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

ECONOMIES OF GROUP DRIVE

Is it possible to figure out just how much saving is effected by using one motor for several machines instead of an individual motor for each machine. In fact is it always economical to use one motor for a combination drive instead of several, that is, one for each pipe-cutting machine, one for each lathe, etc.? This point is of interest to me because of some changes and additions I expect to make in an oil-field machine shop.—T. E. O.

There is no apparent way of figuring out precisely what saving may be effected by substituting the group drive for individual drives, but if most of your machines are in use most of the time, there seems no reason to doubt that the saving resulting from adoption of the group drive would be important.

"The installed capacity of motors necessary for individual driving is from two to three times that necessary for group driving," according to George B. Haven and George W. Swett in their "Treatise on Leather Belting." "This means that if a group of 10 machines were to be driven directly, each one being equipped with a 1-horsepower motor individually applied, the total motor capacity would be 10 horsepower. If these machines were arranged in a group, driven by means of narrow high speed belts from a system of countershafts with one good-sized motor attending to the whole, the total capacity of such a drive need only be from 3 to 4 horsepower. The reason for this lies in the fact that the individual needs of the machines regarding starting torque, accelerations, idle intervals, and maximum and minimum loads would overlap in such a manner as to economize greatly in the total power required. This condition is sometimes expressed as the 'diversity factor.' Normally, the greater the number of machines driven in a group the greater will be the diversity factor. This means that the maximum demand upon a group-driven motor will usually become less and less with relation to the aggregate peak horsepower required by individual units, the greater the number of machines. Obviously, many other items must be considered in comparing these two types of drives, such as the cost of installation, maintenance and upkeep, repair, cleaning, and lubrication.

"The cost per horsepower of motors, with accessories, for group driving is roughly from $12 to $15 per horsepower. This includes moderate installation costs and is a fair figure for the average group-driving system. The corresponding figures for small individual drives of the same aggregate horsepower vary from $15 to $50 per horsepower. Considering the greater installed capacity required for the individual drive, as mentioned above, the ratio of cost including only the item of motors and accessories would be roughly $15 per horsepower for the group motor in comparison with $60 to $75 for the individual drive."

OIL FIELD INFORMATION

We are anxious to secure information with respect to various producing fields in the Mid-Continent area and wish to ask if you can suggest reliable sources of this sort of information. Doubtless there are a number of books available that would serve and we would appreciate your supplying us with the names of several and where they might be secured. We are interested in knowing the location, type of field, history and production record, geological features, future possibilities and if such information is available a brief survey of the more prominent wildcat territories that may have some future significance.—J. D. K.

The information you seek is published in The Oil and Gas Journal from week to week and if you study the field reports from the various areas you will be kept posted as to developments. From time to time you will find geological reports of new pools based upon late and reliable information.

Periodically The Oil and Gas Journal publishes reports issued by the U. S. Bureau of Mines and the American Petroleum Institute giving statistical information about production and consumption of crude oil and these together with reports prepared by The Oil and Gas Journal's staff will give a complete picture of current development within the industry.

The semiannual issue of The Oil and Gas Journal published July 30, 1931, contained a review of the first half of 1931 and it should be of interest to you.

For reference books covering the class of information you seek, it is suggested that you get a copy of Dr. Walter A. Ver Wiebe's new book, "Oil Fields in the United States," published by McGraw-Hill Book Co., 370 Seventh Avenue, New York, and sold at $6. It gives geological information about all areas in this country where oil is found.

The American Petroleum Institute, 250 Park Avenue, New York, issues books of statistics of the oil industry and if you will write, it is possible that the institute can give you a list of such publications with prices.

For information about wildcat territory you are advised to follow the reports carried in The Oil and Gas Journal each week.

A list of publications on file in the technical department of the Tulsa Public Library may be of aid to you. You can get the list by addressing the library direct. All of the books listed are recognized as authoritative on the various subjects they cover.

PARAFFIN IN THE PIPE LINE

We are planning to transport oil of heavy paraffin base by pipe line and I want to ask you what sort of preheating systems are used in your country at the pump station to maintain the oil in a fluid state throughout the whole line from pump station to terminus without obstructing the line with paraffin congealed during transit. One of our two lines is 145 kilometers long and the other is 70 kilometers. I would like to know too how a pipe line may be cleaned of paraffin if it once becomes clogged.—G. D., Bucarest II, Rumania.

In general, success in handling paraffin-base oil through pipe lines without undue settling of waxes can be achieved by using large-diameter pipes. In addition, a relatively high velocity with turbulent rather than stream flow conditions will keep the wax in solution between pump stations.

Where such conditions cannot be attained, it is suggested that the whole mass of oil be heated to a temperature above that at which the wax will congeal out of the fluid and this higher temperature be maintained from station to station, even if it requires installation of heating systems between pump stations.

If heaters are installed it is the usual practice in this country to use some type of heat exchanger made up of numerous tubes through which the oil flows and around the outside of which the waste exhaust gas from engines, hot water from boilers or any other form of heat-carrying medium can be passed. These heaters always should be installed on the discharge side of the station pumps and the heating of the oil done under the line pressure. This is necessary for several reasons but the principal one is to reduce the actual number of heat units required to bring the fluid to the desired temperatures and then to pass the oil on through the line as quickly as possible after it has been heated.

Care must be taken to prevent the heat from releasing gas from the fluid and thus gas-locking the pumps, and if the heat exchangers were placed on the suction side of the pump such a condition might be set up with a lowering of efficiency in the entire system.

It is suggested that you make a careful study of the article by Fred Thilenius on "Modern Ideas Embodied in Prairie Line" in The Oil and Gas Journal of August 30, 1928. At the time it was written the Prairie Pipe Line Co. was faced with an apparently serious problem of handling crude oil from Panhandle district, Texas, which has a cold test of about 60° F. and a high paraffin content. Its problem was solved without great difficulty mainly because the size of the pipe line and the velocity at which the oil was moved did not give the wax opportunity to settle out.

If your lines have sediment or wax already in them study the article by R. W. Sparrowhawk, "Pipe Line Scrapers Have Many Uses," which also was published in The Oil and Gas Journal August 30, 1928. This is about as complete an article on this particular subject as you will find. To make definite recommendations a detailed report of all the conditions along your pipe lines and analysis of the oil would be necessary.

WHY WAS IT CALLED THAT?

DOWSER

"Dowser" is one of the names applied to the divining-rod, or dowse, with which many folk have supposed the presence of underground oil or water could be detected. It is applied also to the person who uses the divining-rod, or dowse. The etymology of the word is obscure, but its use in this connection may come about through the fact that "dowse" (also spelled "douse") in its most familiar usage means to dip or plunge into water or other liquid.

WORLD'S DEEPEST WELL

Please tell me the name and location of the deepest well on record, the kind of tools used, whether it was a producer or not, and any other information you may have at hand. If you can give its pipe record, please do so. We are drilling a deep test well in Mexico and are curious to know whether we are likely to break any records.—E. W. K.

New deep-well records have displaced old ones rapidly in the last year. According to the latest information in possession of this department the Chanslor-Canfield Midway Oil Co.'s No. 2-A Hobson, between the Ventura Avenue and Rincon Fields in California, was the first well to go below the 10,000-foot level, and at this time it holds the record of being the world's deepest well. The No. 2-A Hobson was carried to 10,030 feet and in June, 1931, was rigged up for a production test, which failed to show oil in commercial quantity. The well then was plugged back.

The pipe record consists of 795 feet of 18⅝-inch, 4,226 feet of 11¾-inch, 6,640 feet of 8⅝-inch, 7,479 feet of 5¾-inch, in addition to a combination oil string. The oil string consists of 4-inch blank from 7,400 to 7,430 feet, 4-inch perforated pipe from 7,340 to 8,300 feet and 3-inch from 8,300 to bottom 10,030 feet. The perforations on both the 3-inch and 4-inch oil strings are 125 mesh.

Extreme care was taken during the course of work and heavy equipment utilized throughout. The well was electrically equipped, the motive power consisting of two 25/65 horsepower motors, one for drilling and one for hoisting, although both could be used for hoisting if necessary. The mud pumps consist of two 25/65 horsepower dual rated standard Westinghouse oil field motors. Alternating current was used, the equipment being designed to take 440 volts. Drilling was continuous after operations were started in 1929, with the exception of a little time lost by mechanical trouble and a delay occasioned by an explosion and fire in July, 1930, during swabbing operations.

In view of the fact that you are drilling in Mexico you may be interested in the report carried in the March 26, 1931, issue of The Oil and Gas Journal about the Humble Oil & Refining Co.'s dry hole near the town of Guerrero, Tamaulipas, that was abandoned at a total depth of 7,879 feet.

Probably the deepest commercial producing well in the world is in California, the Associated Oil Co.'s No. 57 Lloyd in the Ventura Pool, which was reported as making 4,888 bbls. of 29.5 gravity oil when brought in and later increased to 5,282 bbls. per day with the gravity increased to 30.1°. This well has a total depth of 8,823 feet.

In Big Lake, Tex., there are several producing wells ranging in depth from 8,633 feet for No. 3-B University of the Continental Oil Co., to 8,729 feet for the No. 5-C University of the Big Lake Oil Co. The Big Lake Oil Co. drilled its No. 3-C to a total depth of 8,923 feet and it made about 170 bbls. daily but is not considered a commercial producer.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas, and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

HIGHEST OCTANE NUMBER GASOLINE

Is there any kind of a process known, cracking or any special method of treating, which will yield a gasoline having a knock rating equal to 100 per cent octane? If you know of any such commercial process I would like to have some information about it?—P.D.

The formation of substances known to be of value for increasing the knock rating must depend to a large extent upon the composition of the raw oil. These antiknock substances are chiefly aromatic hydrocarbons formed from the paraffin compounds at high temperature, around 1,000° C., and with little or no pressure. The conversion of the olefins is somewhat easier as temperatures between 700° and 850° C. will be sufficient. Yields of 22 per cent have been obtained from the paraffin hydrocarbons and 40 per cent from the olefins. The difficulty with the methods depending on heat treatment alone is to obtain a metal which would be satisfactory; also, the tendency to deposit carbon and the large gas loss include additional objectionable features. Refiners have reported making a gasoline rated between 70 and 80 octane number by a combination of selected crude oil and the refining operation.

The highest antiknock rated gasoline, of which we have knowledge, is that showing a knock rating of 95 octane number. This is reported to have been made by the hydrogenation process, which has been developed in the United States by the Standard Oil Co. of New Jersey. A very brief outline of this process is: The petroleum stock mixed with hydrogen is passed into a reaction chamber where it is subjected to a very high pressure, exceeding 3,000 pounds to the square inch, in the presence of a catalyst. The product from this phase is then fractionated and treated as any petroleum distillate. The purity of the gasoline from this process is exceptional; there being no more than a trace of sulphur, practically free from unstable compounds and asphaltic substances, and very low in gum-forming bodies.

EVAPORATION AND LEAKAGE LOSSES FROM GASOLINE TANKS

We are very anxious to secure some reliable information regarding evaporation and leakage losses of gasoline in main storage tanks. If you are in a position to give us this information we would appreciate it.—W. J.

The evaporation losses from storage tanks containing gasoline is related to several variables including the quality of the gasoline, the type of tank, protective covering, and the temperature. Leakage losses should be nothing. If a tank is kept in action, with frequent removals and fillings, there will be larger losses than when the contents are not disturbed.

Under Mid-Continent conditions gasoline has been held in storage in large steel roof tanks during the summer season, the tanks painted white or with aluminum paint, equipped with vapor relief valves and the gasoline stabilized to under 10 pounds vapor pressure, with a total loss approximating 1 per cent. It is the practice to consider any loss above 1 per cent excessive when handling gasoline in underground tanks, such as used in connection with bulk stations and service stations.

The U. S. Bureau of Mines, R.I. 3,138, 1931, has reported the investigation of Ludwig Schmidt and C. J. Wilhelm under the title "Reduction of Evaporation Losses from Gasoline Bulk-Storage Station Tanks." The following is a partial abstract of this paper.

Five tests tanks, 20x10 welded with a capacity of 12,000 gallons were used. The special features of these tanks are indicated in the table.

SPECIAL FEATURES OF TEST TANKS

Tank	Color	Pressure relief	Remarks:
A	white	2 oz.	Painted white covered with insulated housing.
B	aluminum	2 oz.	Covered with aluminum foil.
C	red	2 oz.	Two coats iron oxide paint.
D	aluminum	2 oz.	Two coats aluminum paint.
E	aluminum	5 lbs.	Two coats aluminum paint.

The properties of the gasoline used in these tanks is shown in the table.

PROPERTIES OF THE GASOLINE

Specific gravity	0.7210
A.P.I. gravity	64.8°

Distillation

Recovery per cent	Temp. °F.
Initial	91
10	133
50	231
90	380
Maximum	419
Total per cent	96.4
Loss per cent	2.4

These tanks were erected, and the tests made at Kansas City, Mo., from May 29 to October 25, 1930, or about five months. The lowest temperature during the test period was 28° F. and the highest 107°, the minimum mean temperature 56.4 and the maximum mean temperature 82.8° F. About 8,000 gallons were contained in each tank.

The loss of gasoline by evaporation and the decrease in gravity of the gasoline as in four of the tanks is shown in the table.

RESULTS EVAPORATION TESTS GASOLINE STORAGE TANKS

Tank	Evaporation losses—Gallons	Evaporation losses—Per cent	Gravity A.P.I. loss
A	112	1.40	0.45
B	170	2.12	0.55
C	284	3.54	0.89
D	187	2.34	0.62

Observations were noted of the condition in tank E which was painted with aluminum and equipped with a relief valve operating at 5 pounds pressure and one-half ounce vacuum. Tank D also painted with aluminum but with a 2-ounce relief valve and one-half ounce vacuum showed a loss of 187 gallons with a decrease of 0.62 A.P.I. gravity, whereas tank E lost only 118 gallons with a decrease of 0.52 A.P.I. gravity.

The major losses from bulk-storage tanks occur when they are being filled or emptied. The successful reduction of evaporation losses is dependent upon whether the tanks are vapor-tight, equipped with proper relief valves and hatches or whether these necessary conditions are lacking. Evaporation losses are high when the gasoline is allowed to splash from the top of the tank, but if the tank is filled from the bottom the losses are relatively small. The average filling losses in vapor-tight tanks painted with a light color, equipped with low pressure relief valves, and when filled from the bottom, are probably between 0.25 and 0.5 per cent.

SHALE OIL INDUSTRY

Why is it possible for the shale oil refineries of Scotland to continue operations while similar efforts in the United States meet with little success?—B.H.N.

The manufacture of products from shale has not been encouraging within the past few years. The industry enjoys a high protective tariff, a duty of 8 cents a gallon being imposed on imported gasoline. According to U. S. Consul reports, the Scotch refiner has improved the production of gasoline by making use of a cracking operation. The advantage of this has been offset by the reduced value of the motor fuel and the other products, especially ammonium sulphate and wax. Formerly the returns from the sale of ammonium sulphate were high enough to compensate for any losses met with in the sale of oil and wax, but the synthetic preparation of this product from the air has resulted in a lower price.

At the close of 1930 prevailing quotations for petroleum products in Scotland were all slightly below corresponding prices for the end of 1929, with the exception of those for fuel and lubricating oils, which were unchanged. Gasoline was sold at 34 cents a gallon (in tins) in 1929 and 29 cents at the end of 1930. With its high reputation, shale gasoline seems to have found a ready outlet throughout the year, even with the great increase in local production, but the price has been disappointing.

KNOCK DEPENDS UPON MOLECULAR STRUCTURE

Some authorities suggest that the knocking quality of gasoline depends on how the carbon groups are arranged. This is in explanation of the differences in the behavior of gasoline obtained from the various crudes. Could you give me a simple explanation of this?—H. S. J.

The aromatic hydrocarbons, the closed ring compounds, do not knock in a motor to the same degree as the paraffin hydrocarbons, the open chain compounds. It was early recognized that the gasoline made from one crude oil would not have the same properties as the gasoline made from an entirely different oil. Differences of this sort are particularly striking when straightrun gasoline made from a pure paraffin crude oil is compared with gasoline which is the product of the cracking operation. This fact is considered to be due to the formation of unsaturated bodies together with ring compounds of the aromatic series.

Lovell, Campbell and Boyd have investigated the action of a number of hydrocarbons, as reported in Industrial and Engineering Chemistry, 23, 26, 1931, and 23, 555, 1931. They conclude that the knock increases with the length of the chain in a homologous series and in an isomeric series the knock decreases with addition of side chains. Measurements were made with mixtures of the pure hydrocarbon and gasoline, and the results expressed on a molecular basis, using the antiknock effect of aniline as the standard of comparison. These authors state that upon this basis there appear very great differences among the knocking properties of these compounds, and even among isomers, including those in which the structural difference lies only in the position of the double bond. Definite relationships between molecular structure and tendency to knock were found for these compounds. With the straight-chain olefins it was observed (1) that in a homologous series the tendency to knock increased with increasing length of the saturated carbon chain, (2) that in an isomeric series the tendency to knock decreased progressively with centralization of the double bond, and (3) that the tendency to knock is roughly determined by the length of the longest saturated carbon chain. Branched-chain olefins shows a somewhat similar behavior; the tendency to knock decreases upon the introduction of a double bond, and the knocking tendency apparently is related, not only to the position of the double bond, but also to the branched structure of the molecule.

COLOR INHIBITORS FOR GASOLINE

What chemical compounds are added to motor fuels inhibitory to the formation of gum and color bodies on exposure to light and what is the supposed mechanism of their action?—E. C. H.

An inhibitor may be considered the opposite of a catalyst in that instead of accelerating a reaction it acts to retard it. Usually inhibiting substances are used in very small quantities as are catalysts. Many substances are known which retard or even stop certain chemical reactions, such substances are commonly known as catalytic poisons. Advantage has been taken of this property in the selection of color inhibitors for use in the marketing of uncolored gasoline. Some of these may reduce gum formation but their main purpose is to prevent gasoline from going off color because of the action of light.

The exact part that such materials take to produce the result is not known. There is evidence that some form of oxidation is responsible for the formation of color. Any compound which will arrest or slow down this oxidation may be used as a color inhibitor. Anthracene, camphor, phenanthrene, amines and other substances have been used as color inhibitors in gasoline. An article by Egloff, Faragher and Morrell, in The Oil and Gas Journal, December 5, 1929, describes experiments and mentions additional substances.

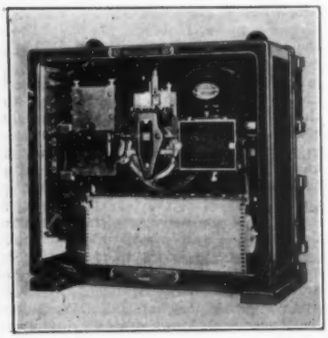
Most of these chemicals are soluble in gasoline to a limited extent and of course a solution approaching saturation must not be used, the quantities found to be satisfactory being of the order of 1/1,000 to 1/10,000 of a per cent.

Substances of this sort should not be considered as bleaching agents or materials which will render a gasoline impervious to the action of light, because they will neither act to remove color nor will they serve as armor to shield the gasoline for long periods. They do not stop the action but those of merit will slow it down. The better inhibitors are recommended to be effective for reasonable conditions, that is where the gasoline is exposed in a bowl for a comparatively short time; say from two to three hours at the most.

Oil Industry Equipment and Supplies

IMPROVED PYROMETER IS INTRODUCED BY L. & N.

An improved L & N potentiometer pyrometer has been announced by the Leeds & Northrup Co. of Philadelphia, Pa. The instrument has been given the name of "Micromax" to distinguish it from the preceding L & N potentiometer pyrometer. The Micromax pyrometer, according to the company, is more sensitive, more rugged, and is faster in operation. It is fully automatic and eliminates daily attention and adjustments. These advantages are obtained by the new mechanical balancing device and the automatic standardizer, which checks the instrument circuit every 45 minutes or less. L & N recorders now in operation may be equipped with Micromax improvements, according to the company.



The description of the improved L & N potentiometer pyrometer provided by the company includes the following:

"The Micromax balancing device gives micrometer sensitivity, needs no adjustments and is remarkably fast-acting. Due to the complete elimination of operating clearance between galvanometer pointer and levers, pointer deflections as small as one-one thousandth of an inch can be detected and recorded. Because of this ability of the balancing device to detect extremely small pointer movements, Micromax gives greater sensitivity with greater ruggedness. The recording pen can step across the entire 9¾-inch of calibrated chart in less than 22 seconds, the size of each step being far more closely related to the extent of pointer deflection. The no-slip driving clutch for the pen is direct and simple, and is automatically prevented from attempting to move the pen beyond either end of the scale. The automatic standardizer is a simple device which automatically checks the potentiometer circuit every 45 minutes or less, giving a much closer adjustment than is obtained by hand. Also, the circuit can be standardized at will (as after changing a thermocouple, when a check is desired) before the 45-minute cycle is completed. By means of the automatic standardizing, the machine itself assures potentiometer accuracy, and the memory of an operator neet not be depended upon."

A new catalog describing the L & N Micromax pyrometer in detail may be obtained upon request to the Leeds & Northrup Co., 4901 Stenton Avenue, Philadelphia.

Sullivan scraper mucking hoists are the subject of a 24-page illustrated bulletin published by the Sullivan Machinery Co., Chicago. Features of this hoist line not hitherto presented include the use of National Electric Manufacturing Association motors on certain sizes, notably the 20 horsepower motor, and of two new sizes of compressed air hoists using the Turbinair motor, a Sullivan product.

AMONG THE EQUIPMENT HOUSES

R. T. MacEachern has been placed in charge of the Dallas, Tex., and Tulsa offices of the Philip Carey Co.'s oil industry division, and E. T. Kelly in charge of the Houston, Tex., office.

The American Askania Corp., Houston, Tex., has moved its offices from the Marine Bank Building to 809 Merchants & Manufacturers Building.

After 30 years of service Harold H. Clark has retired from his position of vice president and assistant secretary of the Pacific division of Link-Belt Co.

John J. Stanton, merchandise manager of the northwest district of Westinghouse Electric & Manufacturing Co., has been appointed Milwaukee manager in charge of Wisconsin and the upper peninsula of Michigan.

The Laney Co., 702 Kennedy Building, Tulsa, is now exclusive distributor in Oklahoma for Tube-Turns, seamless drawn fittings for pipe welding.

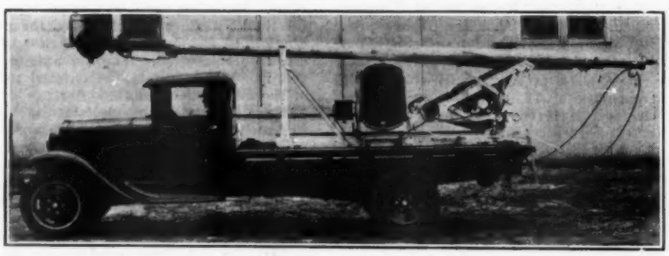
J. G. Campazzie has been made vice president in charge of sales of the Headley Emulsified Products Co., Philadelphia, Pa.

On the 320 miles of gas pipe for the Montana Power Co. line running from Cut Bank to Butte and from Dry Creek to Bozeman, Nordstrom valves have been specified. On the new 26-inch Southern Fuel line running from Kettleman Hills to Los Angeles as an added outlet for surplus gas from this field, Nordstrom Venturi type valves will be used.

The Naylor Pipe Co., Chicago, announces the appointment of James K. Wilson as district sales manager for Texas and Louisiana, with headquarters at 305 Magnolia Building, Dallas, Tex.

Champion & Barber, Inc., 576 Subway Terminal Building, Los Angeles, Calif., have been appointed exclusive oil field distributors by the Cee-Bee Laboratories, Ltd., manufacturers of Cee-Bee cleaning compounds for the oil industry.

WICHTEX PORTABLE WINCH MADE STRONG AND SIMPLE



The Wichtex portable winch, with independent 4 or 6-cylinder power, manufactured by the Wichtex Machinery Co., Inc., Wichita Falls, Tex., has a strong and simple frame construction. The main frame is made of 5-inch channel iron, making a skid arrangement and also forming stands to carry the lower part of the mast. The stands that carry the top of the mast when lowered are also attached to the main frame. With this compact arrangement the entire winch together with mast can be quickly skidded from the truck by its own power, after removing only four anchor bolts. The main frame is 15 inches from the back of the truck body, which makes a well balanced unit.

The mast is raised and lowered with a double line, which gives a steadier pull and lessens danger of dropping it. The screw at the bottom of the mast also relieves the body of the truck of weight when pulling wells. The channel iron that carries the lower part of the mast is securely fastened to the pivot member, which acts as a saddle and reinforces the mast. The mast can be raised, detached and left standing at the well, which sometimes is done where part of the wells are equipped with derricks or gin poles.

Advantages of this winch enumerated by the manufacturer include: Independently motor driven. Can be mounted on any type truck, trailer or semitrailer. Light enough to be pulled behind a Ford car mounted on semitrailer and heavy enough to handle 2,500 to 3,000 feet of rods and tubing. Winch drum mounted on self-aligning ball bearings, which eliminate friction, allow drum to run freely at all times and allow it to run in any position, as it is not always possible to keep the winch in perfect alignment while pulling. Driving sprocket from motor to countershaft is mounted on self-aligning ball bearing pillow blocks driven with flexible couplings. Only two chains are used, one from engine to countershaft and one from countershaft to drum. More line spooling capacity. Furnished with or without 38-foot steel telescoping mast. Mast is raised and lowered by an especially arranged spool and with this improvement line can be left spooled on the drum and strung over the mast as the drum is not disturbed when raising or lowering the mast. Can be operated from standing position at well or from seat which is mounted on winch.

WESTINGHOUSE PROMOTIONS

C. H. Champlin, for eight years manager of the Sharon, Pa., works of the Westinghouse Electrical & Manufacturing Co., has succeeded J. M. Hipple as manager of the East Pittsburgh, Pa., works, following the latter's promotion to general works manager. J. S. Tritle, vice president and general manager, announces the appointment of M. L. Fawcett as works manager in Sharon. A. B. Reynders, in addition to his duties as works manager in East Springfield, Mass., will have supervision over the operations of the Mansfield works, and J. E. Barkle will have supervision over the Newark works in addition to his duties as works manager in South Philadelphia. E. M. Olin, works manager in Mansfield and H. E. Miller, works manager in Newark, retain their present positions, reporting to Mr. Reynders and Mr. Barkle respectively.

MEN KNOWN *in* THE EQUIPMENT FIELD

Ralph M. Hoffman

Ralph M. Hoffman, for eight years manager of the Seattle, Wash., office of the Link-Belt Co.'s Pacific division, has been made vice president and sales manager of the division, with headquarters in San Francisco, Calif. He succeeds Harold H. Clark, who recently retired after 30 years service with the company. Mr. Hoffman has had 20 years' experience on the Pacific Coast selling elevator and power-transmitting equipment.

Graduating from the University of Minnesota in 1911, Mr. Hoffman went to Seattle, where he joined the Meese & Gottfried Co., later opening an office for that organization in Vancouver, British Columbia. When the company merged with the Pacific division of Link-Belt Co., Mr. Hoffman was made manager of the Seattle office.

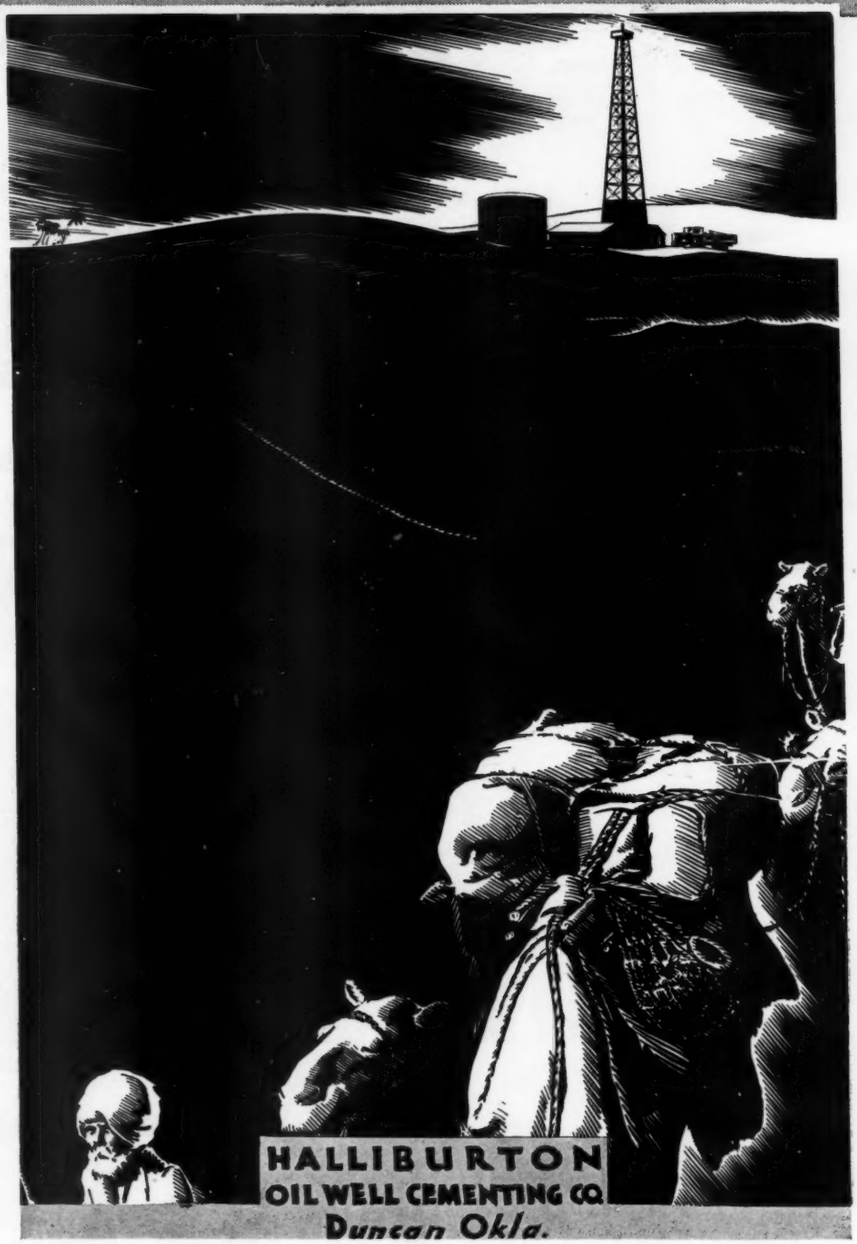
NEW METHOD OF WELDING STORAGE TANKS OFFERED

The Wyatt Metal & Boiler Works, Dallas, Tex., has introduced a method of welding construction for steel storage tanks, in which bolts, rivets, or the punching of the plates for fitting up purposes has been eliminated. The steel plates are held firmly in position, while at the same time the seams are being properly gauged through the use of wedge pins and clips on which patents are pending. Either a welded lap joint or a welded butt strap joint is used, the welding specifications and the type and design of the joint depending upon the efficiency required and the thickness of the shell plates.

Under this welding method there is no limitation as to the size of tanks which can be built. The Wyatt Metal & Boiler Works has under construction tanks with a total storage capacity of 330,000 bbls., including a 55,000 and an 80,000-bbl. tank. The company has completed a total of 58 tanks aggregating 340,000 bbls.

The efficiency of the welded joint and the lower shop and field erection costs are said to make it possible to obtain a lower cost per barrel storage. With the welded method a thinner shell can be used with riveted tanks where the seams must be caulked. As there is no leakage to cause paint deterioration, maintenance costs are said to be cheaper.

HALLIBURTON



TRAVELING through the oil fields of Iraq (Mesopotamia) one beholds many strange sights. Caravans of camels.... dark skinned natives toiling in sub-tropical heat.... incredibly large swarms of mosquitoes and sand flies doing their bit to make life miserable. Yet, in the midst of the strange surroundings, the American oil man comes upon a familiar scene. In Iraq, as in every other part of the oil world, Halliburton Cementing Equipment is diligently at work. Where a company is operating so far from the base of supply, and where so much money is at stake without immediate returns, dependable equipment is very essential.

Place me on the list to receive THE CEMENTER as issued.

NAME_____ COMPANY_____ ADDRESS_____

Active Oil Men Snapped By The Journal's Cameras

1—Top row: E. A. Allen, transportation foreman; D. W. Wofford, tool pusher; Frank Myers, farm boss, and Pat Tyre, engineer. Bottom row: J. H. Barlow, transportation clerk; T. M. Barber, chief clerk, and P. M. Hicks, telegraph operator, Humble Oil & Refining Company, Kilgore, Tex. 2—C. O. Pace, Nelson Reynolds, and Homer Anderson, Halliburton Oil Well Cementing Company, Henderson, Tex. 3—B. F. DeLong, well shooter, Borger, Tex. 4—J. W. Kisling, Elmer Shields, and J. O. Parker, pumpers, Prairie Oil & Gas Company, Tulsa. 5—F. A. Swick, clerk; Virgil Haney, draftsman; A. J. Black, gauger, and A. M. Yates, engineer, pipe line department, Tidal Refining Company, Joinerville Field, Texas. 6—L. W. Chadderdon, Hinderliter Tool Company; Ed Ragan, Jarecki Manufacturing Company, and G. E. Justice, district manager, Hinderliter Tool Company, Longview, Tex.

GOV. MURRAY WANTS TO METER OIL WELLS

(Continued from Page 60)

supervising such a regulatory measure would be prohibitive.

One clause in the proposed bill that brought forth a storm of protest was the recommendation that each well be equipped with a gas meter to check the quantity of gas that was produced with the oil. Estimates were made that such equipment as would be required to make such a provision operative would cost approximately $1,000 per well, and as there were 60,000 wells in the State at that time that would come under the provisions of such a law if enacted the total cost to the industry would be about $60,000,000.

Meters for Oil Undesirable

In the second recommendation Governor Murray suggests that a "state meter be placed on each producing well" and that such meter be sealed and under the supervision of state employes. This is one clause in his recommendations that will warrant very careful consideration by all interested for to use an oil meter at the well, or even at the lease storage tanks, presents many problems.

It has been so obvious that there were many advantages to be gained by metering the production of a well that men have tried to devise suitable mechanical means of doing it practically since the industry started. Many patents have been issued for strange and weird contraptions that, in the opinion of the inventor would be the answer to the oil man's problems, but up to this time it is not known that any mechanical device has ever been put into actual operation on an oil and gas well that will function by any simple means.

The cost of equipment is of first importance and under the present system of purchasing oil the device would have to be approved by the pipe line company before it would accept the readings for settlement of oil run. If used to secure information for several owners of interests in a well there again enters into the use of mechanical devices the problem of securing the desired information in such a way as to leave no room for doubt on the part of any of the interested parties.

The very character of the elements produced from a well make the metering of it almost a mechanical impossibility at the well head and that is the place where the check should be made if all doubt as to the correctness of the results is to be eliminated. Wells produce in addition to oil at varying rates, gas, both free and in solution in the oil; water both free and emulsified with the oil, and sand, mud and other debris from the well.

A mechanical device that could pass such a constantly varying mixture through it and then register the proportion of oil and gas that had been produced by the well would be so complicated in its operations and so costly to build and maintain that it would be prohibitive to use.

The Union Oil Co. of California has made experiments with oil meters but the oil and gas, with such water and sand as the well made, was produced first into separators and then the oil and gas passed through a flow or run-down tank placed in the line ahead of the meter to remove as much as possible of the entrained gas that remained in the oil after it left the larger separators. There are two high pressure oil and gas separators at the well.

The meter used is of the positive, piston displacement type, the counter of which is graduated to read in barrels direct. An automatic sampling device which is built integral with the meter takes a continuous sample of the fluid from the point of maximum turbulence within the meter and gives as nearly as possible a representative lead line sample.

Complicated Operations

The above layout may not sound very complicated to the layman but to the engineer entrusted with handling such apparatus it means a vast amount of very accurate work that, regardless of a man's integrity and honesty, will require special training to perform.

The fact that it is necessary to secure as accurate a sample of the stream passing through the lead line to the meter indicates the weakness of the system for such sampling can only be approximately correct and after it is secured the sample must be analyzed by competent men in the laboratory to determine proportions of oil, gas, water and sediment that has been produced by the well.

This brings into the problem the personal equation, something that will always be an important element in gauging any well's production and up to this time this factor has been the determining one in all metering operations.

This does not condemn the meter idea but merely points out the many conditions that would arise if the State undertook to supervise the production of oil from a unitized pool and also gives some idea of the amount of expense such supervision would entail.

Meters have been made and are in use on oil lines where the fluid to be measured is "settled," that is, has passed through tanks where the oil, gas and water have had opportunity to separate and only the oil is passed through the meter. But at that point in the operations on a lease it is possible for a number of things to have happened that would give rise to question on the part of owners of interests in the common pool and make such a plan inoperative.

The industry has been faced with the problem of gauging production from wells ever since it started and the system that has been built up, while depending upon the human element largely, is about as good as can be devised if all things are considered. To try to supervise a unitized pool by state employes, no matter how far above reproach or price they might be would create a feeling among the owners of interest in the pool that would tend to cause dissatisfaction and criticism and as this grew the operation of the law would be made more and more difficult.

JIM O'NEIL EULOGIZED BY HENRY L. DOHERTY

The following telegram was received by The Oil and Gas Journal from Henry L. Doherty who sent it from Rye, N. Y.:

"I have just read and with great sorrow of the death of Jim O'Neil. In an industry which has many well loved and lovable men I will offend no one when I say that no man in the oil business was ever better loved than Mr. O'Neil. For many years he lived a clean and fair life and with good fellowship to all but since he was subjected to public criticism, he has lived the life of a recluse.

"Hundreds of men can vouch for many kindly deeds he has done and yet he never boasted of any and probably the most of his good deeds are unknown. It is hard for me and many others to believe he ever did anything that was deliberately and seriously wrong and even if he did make one slip his friends should not permit a long life of fair dealing and kind acts to be forgotten because of one unfortunate happening.

"He was a deeply religious man and I have discussed his case with one of the great cardinals of his church and I had the great pleasure to send to Jim O'Neil the blessing of this great man over his own signature. Weighed justly, few men can claim a larger credit balance for what was good in life than Jim O'Neil and he deserves to be remembered for his many good acts."

OIL TARIFF REPORT

WASHINGTON, D. C., Aug. 31.—There seems to be little doubt that Congress when it assembles here in December will receive the supplemental report ordered at the last session on foreign and domestic production costs of petroleum and products of petroleum. That is the expectation of Dr. Edgar B. Brossard, acting chairman of the U. S. Tariff Commission.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 44)

Mills et al's No. 1 McMahon, 275 ft. SW line, 75 ft. SE line of tract, J. Pinchback Sur.....T. D. 2,502 ft.; standing.

COMAL COUNTY

Caldwell & Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-ac tract in the H.E.&W.T. No. 5,894 Sur.....T. D. 722 ft.; trying to set csg. on bottom.

DEWITT COUNTY

Gibson & Sturm's No. 1 Clark, Dolores Alderete Sur.....Rigged up; standing.

DUVAL COUNTY

Camp and Southern Crude's No. 2 Hubbard, 990 ft. from N line, 330 ft. from W line of B.S.&F. Sur. No. 73 .....Rigging up.

Coffee et al's No. 1 Jose Garza, center Sur. 49.....T. D. 1,780 ft.; drlg.

L. E. Lockhart's No. 1 Sutherland, 330 ft. from N and W lines of Sur. 511.....T. D. 1,600 ft.; drlg.

S. J. Carpenter et al's No. 1 Juan Benavides, Blk. 33, Mesquite grant .....T. D. 1,712 ft.; standing.

Frank Gravis' No. 1 Shallert, Sur No. 255.....Derrick.

South Texas Production Co.'s No. 1 Benavides.....Making location.

FAYETTE COUNTY

Elam & Reynolds' No. 1 Florence, M. Muldoon Sur. No. 13 .....T. D. 2,610 ft.; flowing fresh wtr.

GUADALUPE COUNTY

Camp et al's No. 1 Sue Denman, 450 ft. N of highway, 150 ft. from E line of tract in William Arrington Sur. .....T. D. 2,507 ft.; complete; gauged 340 bbls. in one hour.

Harry Bruner's No. 1 Jim Sherrill, 330 ft. from NW and SW lines of tract in George Allen League.....T. D. 180 ft.; standing.

McGarrity et al's No. 1 A. Wesch, Jr., 150 ft. to N and E lines of farm, H. M. Thompson Sur.....T. D. 1,200 ft.; drlg.

Schleyer, Atherton and Armstrong's No 1 Ogletree, Robert Smith Sur. .....T. D. 1,745 ft.; shut down.

Linne et al's No. 1 J. E. Linne, center 263-ac. tract in V. Cortario Sur. .....T. D. 1,435 ft.; drlg

W. J. Walton's No. 1 Zoboroski, 700 ft. W line of tract, 500 ft. S of Guadalupe River, in Joseph D. Clements Sur. .....T. D. 2,210 ft.; flowing 8 bbls. daily.

HAYS COUNTY

J. C. Jones et al's No. 1 Byder, John Ingram Sur.....T. D. 930 ft.; standing.

FRIO COUNTY

A. H. Wray's No. 1 Roche, 330 ft. from N and W lines of NW SE, Sec. 123, A. Hutzler Sur.....Spudded in.

KARNES COUNTY

V. F. Neuhaus' No. 1 Russell, 150 ft. from E line of tract, 150 ft N of highway, Carlos Martinez Sur.....Spudded in.

KENDALL COUNTY

Borgett et al's No. 1 W. Haag, 3,804 ft. from N line, 1,506 ft. from W line of W. Avery Sur.....T. D. 1,220 ft.; drlg.

Dixon Oil Co.'s No. 1 Ottmar Behr, 823 ft. from S and N lines of Jessie Wilson Sur., 3 miles S of Sisterdale .....T. D. 2,708 ft.; drlg.

Sitton et al's No. 1 Garvin, C of NE of D. L. Richardson Sur., in the D. L. Richardson Sur., 1 mile NE from Kendalia .....T. D. 1,482 ft.; shut down.

Fred S. Dibble's No. 1 Ellebrach, Sur. 77, N part of County .....T. D. 50 ft.; shut down.

Sartain's No. 1 Lawhon, 30 ft. SE of Perkins' No. 1 Lawhon; taken over at 281 ft.....T. D. 575 ft.; no report.

KERR COUNTY

Herbert Oil Co.'s No. 1 J. D. Witt, 1,320 ft. N line, 1,320 ft. W line of Sec. 1,923, W. H. Hamilton Sur....T. D. 200 ft.; standing.

Evans & Gant's No. 1 Seiker-Mears, C.C.S.D.&N G.R.G. Sur. No. 1,605 .....T. D. 4,031 ft.; shut down.

Evans & Gant's No. 1 E. Young, A. E. Burge Sur. No. 28 .....T. D. 1,312 ft.; standing.

Evans & Gant's No. 1 Love in J. Martinez Sur. No. 1,594, 1,320 ft. from W line of survey and 660 ft. S of S line of Sur. No 1,597.....T. D. 4,060 ft.; shut down

Evans & Gant's No. 2 Love, 150 ft. S and W line of Sur. 1,593 .....T. D. 675 ft.; drlg.

LIVE OAK COUNTY

Henderson Coquat's No 1 Hewitt .....T. D. 400 ft.; standing.

Hughes et al's No. 1 Martin, 300 yards S of Simms' No. 1 Holzmark .....Moving in rig.

LEE COUNTY

Burt et al's No. 1 R. C. Saunders, J. Maxmillan Sur.....T. D. 4,034 ft.; shut down.

A. H. Wheeler and associates' No. 1 fee, Blk. 47, H. Donohue Sur. .....T. D. 3,360 ft.; drlg.

C. B. Polk et al's No. 1 Stoltz, Hiram Donohue Sur.....T. D 2,300 ft.; shut down.

MAVERICK COUNTY

I. N. Boicourt's No. 1 Bandera School Land.....T. D. 2,162 ft.; drlg.

McMULLEN COUNTY

A. E. Adams' No. 1 Martin, 150 ft. NW line, 150 ft. to SW line of E. Melon No. 212 Sur.....T. D. 175 ft.; drlg.

Whall, Scherer et al's No. 1 Shiner, Henry Brewer Sur...T. D. 2,008 ft; shut down.

MEDINA COUNTY

Frank A. Brown's No. 1 Fohn, 150 ft. from E line, 790 ft. from N line of J. F. Torry Sur. No. 113.....Spudded in.

O H. Fretelliers' No. 1 J. F. Riley, 450 ft. from N and 750 ft. from E line of tract in Sur. No. 449.....T. D. 130 ft.; shut down.

Genard Bros.' No. 1 L. Crawford, 150 ft. to N and W lines of tract in J. Keppler Sur. No. 478.....T. D. 1,425 ft.; drlg.

J. H. Hickey's No. 1 Jungman, at N end Chicon Lake....T. D. 650 ft.; shut down.

Star Pet. Co.'s No. 1 Medina Valley Irrigation Co., 150 ft. from S and E lines of Isom Palmer Sur. No. 20...T. D. 760 ft.; drlg.

Sunflower Oil Co's No. 1 Mofield, J. Brothag Sur. No. 532 .....T. D. 2,100 ft.; abnd.

Yancey Dev. Co.'s No. 1 Fassler, Sur. No. 801.....T. D. 1,945 ft.; fishing for fishtail bit.

MILAM COUNTY

Dil-Tex Oil Corp.'s No. 1 Dilbeck, 450 ft. N and E lines of farm, Fernando Rodriguez Sur.....T. D. 2,500 ft ; shut down.

H. W. Elliott's No. 1 Marek, 767 ft. from N line, 500 ft. from W line of 160-ac. tract, in B. Wickson Sur.....Spudded in.

Nowlen's No. 1 Beard, 1,350 ft. from SE line, 450 ft from SW line of farm, in J. F. Guthrie Sur., 4 miles S Thorndale .....Rigging up.

Red Bank Oil Co.'s No. 1 Foster, A. G. Berry Sur.....T. D. 4,690 ft.; drlg.

Wilson-Broach Co.'s No. 1 E. L. White, 250 ft. from S and E lines of S. Frost Sur.....T. D. 2,925 ft.; drlg.

NUECES COUNTY

Southern Crude Oil Pur. Co.'s No. 1 Chas. E. Stratton, 1,650 ft. E line, 330 ft. S line of P. Sancho Sur.....T. D. 4,752 ft.; cored sand 4,746-52 ft.; tested 200 lbs. in 3 minutes; no meter; waiting order.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW, Sec. 175.....T. D. 2,500 ft.; hauling in csg.

SAN PATRICIO COUNTY

Jacob, Buzzini, Pickett's No. 2 Baldwin, three-fourths mile from S and W lines of tract.....T. D. 2,700 ft.; drlg.

Welder Oil Corp.'s No. 2 Welder, 150 ft. E of C of W line of 100-acre tract.....T. D. 3,600 ft.; standing.

STARR COUNTY

Hooks & Weaver's No. 1 Kelsey-Bass, in Blk. 6, Porcion 76 .....T. D. 280 ft.; drlg.

TRAVIS COUNTY

C. R. Franklin et al's No. 1 J. Wilson, 160 ft. from N and W lines of farm in A. Alexander Sur.....Rigging up.

Fritz Fuchs' No 1 L. Ballerstedt, 450 ft. from N line, 750 ft. from E line of tract in Amos Alexander Sur. .....T. D. 1,105 ft.; shut down.

Fritz Fuchs' No. 1 A. F. Smith, 150 ft. from W line, 750 ft. from N line of tract in D. Kimbor Sur.....Location.
Ray & Henze's No. 1 Hatech, in C of tract in S. Hamilton Sur. .....Spudded in and shut down.
Waldron et al's No. 1 T. Cook, 300 ft. from NW line, 3,500 ft. from SW line of D. H. Minor Sur .....T. D. 740 ft.; drlg.

WEBB COUNTY

Cole Pet. Co.'s No. 4 Benavides, Sur. No. 1,613.....T. D. 3,225 ft.; drlg.
Eugene Garner, Jr.'s No. 1 Billings, 411 ft. E line, 956 ft. N line of NW NE, Sur. 71.....Building derrick.
Southern Gas Utilities and O. W. Killam's No. 1 de la Garza .....T. D. 2,570 ft.; tested gas.

WILLIAMSON COUNTY

Citizens Oil Development Co.'s No. 2 Forewood, 1,200 ft. to NE line, 1,420 ft. to SE line of farm and survey in A. S. Fisher Sur.....T. D. 1,318 ft.; drlg.
Hays & Gee's No. 1 E. G. Johnson, 1,800 ft. from N line, 170 ft. from E line of tract in B. C. Low Sur., S of Georgetown .....T. D. 1,200 ft.; drlg.
H. Fritz et al's No. 1 fee, 450 ft. from S line, 1,050 ft. from W line of farm in H.T.&B. Sur.....T. D. 893 ft.; drlg.
McLean's No. 1 R. C. Miller, 300 ft. from S line, 150 ft from W line of farm in Manlove Sur.....T. D. 1,900 ft.; reinstated; cleaning out to deepen.
R. S. Wilson's No. 1 Speckels, 150 ft. N of road, 600 ft. from W line of farm in J. Jordan Sur., 1 mile N of Coupland .....Rigging up.

WILSON COUNTY

A. M. Blume's No. 1 Nickolson, C. Diaz Sur.....T. D. 1,066 ft.; shut down
Sun Oil Co.-Penn Oil Co.'s No. 1 Tudyke.....Core test.

ZAPATA COUNTY

O. W. Killam's No. 1 A. M. Brunl, 2,610 ft from NE line and 3,850 ft. from SE line of 2,561-ac. tract in Borrego grant .....500 ft.; drlg.
McCaldin, Owen & Newton's No. 1 F. Guerra, in Sur. 161..T. D. 1,840 ft. in sand.
H. L. Sargent's No. 1 Gutierrez, 922 ft. from W line, 472 ft. from S line of Blk. 5, Porcion 10, in Borrego grant .....Rigging up.
T H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 8 Subd., Share 7, Partition No. 6, T. Uribe Partition of Jose V. Borrego Sur.....Rigged up and standing.
Bill Henry et al's No. 1 Gopher Trust estate, Borrego grant .....T. D. 1,365 ft.; standing.
Penny Prod. Co.'s No. 1 Juan V. Cueliar, Jr., et al, 175 ft. NE line, 175 ft. SE line, Poppas Subd., Porcions 33 and 34, Blk. 1, Sur.3.....T. D. 2,035 ft.; drlg.
National Oil Co.'s No. 1 Zapata Trust estate, 617 ft. NW line, 96 ft NE line, Blk. 97, De Prom Subd., Porcion 6 .....T. D. 600 ft.; standing.
National Oil Co.'s No. 2 Adams, 150 ft. from NW line and SW line, Blk. 11, Borrego grant .....T. D. 1,320 ft.; standing.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 41)

E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW, Sec. 30-13-15 .....Washing to bottom 2,140 ft.
Rellitt Oil Co.'s No. 1 Ganno hrs., 300 ft. S and E, NW cor. NW NE, Sec. 12-11-16 .....Bailing to test 1,965 ft.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13 ....S.D. 1,366 ft.

LA SALLE PARISH

Gulf Ref. Co.'s No. 1 Tremont Lbr. Co., 662 ft. N, 632 ft. E, SW cor., Sec. 10-9n-2e .....Began Aug. 22; set 15½-in. 105 ft.

NATCHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E, C, Sec. 28-9-10 .....T.A. 4,091 ft.
J. W. Cooper et al's No. 1 Cooper, NW SW, Sec. 35-11-10 .....S.D. 3,156 ft.
Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10....S.D. 1,518 ft.
C. M. Talley et al's No. 1 C. M. Talley, 1,980 ft. W, 660 ft. S, NE cor. SE, Sec. 29-11-10 .....Tested dry; S.D. 1,380 ft.

RAPIDES PARISH

Pelican Nat. Gas Co.'s No. 1 Long Bell Lbr. Co., 330 ft. N and E, SW cor., Sec. 3-1n-3w .....Set 12-in. 130 ft; drlg. 1,035 ft.

RED RIVER PARISH

La. Oil Dev. Co.'s No. 2 La. Delta Pecan Co., 2,950 ft. S, 300 ft. E, NW cor., Sec. 27-13-11 .....Spudded in; S.D. 50 ft.
Mack Jourden Co.'s No. 1 Lockett, 4,035 ft. S, 1,080 ft. E, NW cor. SW, Sec. 29, in Sec. 32-13-10 .....Drlg. 2,550 ft.

RICHLAND PARISH

Alto Gas Co.'s No. 2 Hunt, 660 ft. S and E, NW cor., Sec. 13-17-5 .....Derrick.
National Gas Co.'s No. 1 Singletary, 1,980 ft. N, 660 ft. W, SE cor., Sec. 20-18n-7e .....Drlg. 2,085 ft.
Richland Operating Co.'s No. 1 Baremore, 730 ft. S, 950 ft. E, NW cor., Sec. 19-16n-7e .....Drlg. 1,850 ft.
Southern Carbon Co.'s No. 1-B C. M. Noble, 2,966 ft. N, 1,525 ft. W, cor. Secs. 7, 8, 17 and 18, in Sec. 37-15-6..Location.

SABINE PARISH

Diffie & Barnett's No. 1 Lites (was J. W. Clark's), 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 34-8-11 .....S.D. 105 ft.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW, Sec. 10-8-13 .....Fishing for D.S. 3,628 ft.
R. L. Gay, tr.'s No. 10 Bowman-Hicks, 330 ft. S and E, NW cor. SW SW, Sec. 15-7-13 .....Rigging up.
Langbridge Oil Co.'s No. 1 Stephens, 330 ft. N and E, SW cor. SE NE, Sec. 17-9-11 .....Drlg. 2,670 ft.
J. J. Keen, tr.'s No. 1 Belton (no check), Sec. 31-9-13..Set 8-in. 1,590 ft.
A. H. Thames' No. 1 Edward est., 150 ft. NW SE cor. NE SE, Sec. 8-8-13 .....S.D. for wtr. 1,200 ft.

TENSAS PARISH

U. A. Duvall et al's No. 1 Martin Jacob, 150 ft. S, 150 ft. W. NE cor., Sec. 1-14-11e .....Rigging up.
A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 .....S.D. 2,545 ft.
Dan Brooks' No. 1 Odus Douglas, 330 ft. S and E, NW cor. NE SW, Sec. 9-22-2 .....Drlg. hard chalky lime 2,395 ft.

ARKANSAS

CHICOT COUNTY

R. R. Smith's No. 1 Lytle, 660 ft. N, 660 ft. E, C, Sec. 21-28-3 .....T.A. 2,925 ft.

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenwelder, Rhea & Kitchen, Sec. 13-17-22 .....S.D. 804 ft.

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C, NW SE, Sec. 4-20-3 .....S.D. 1,352 ft.

CLEVELAND COUNTY

Crum & Stillwell's No. 1 E. R. Bell, Sec. 10-10s-12w ....Rigged up and S.D.

CLEBURNE COUNTY
(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9 .....S.D. 3,740 ft.

DALLAS COUNTY

E. C. Brewer's No. 1 W. E. Hillman, 330 ft. E, 40 ft. S, NW cor. SE NE, Sec. 20-10-13 .....S.D.; W.O. 2,869 ft.
J. H. James, tr.'s No. 1 Fordyce Lbr. Co., 200 ft. S, 200 ft. E, NW cor. NE, Sec. 11-8-15 .....S.D. funds 2,520 ft.
Zepp O. & G. Co.'s No. 2 Hillman, 450 ft. E, 340 ft. S, NW cor. SE NE, Sec. 10-20-13 .....Drlg. 864 ft.

DREW COUNTY

Co-Operative Dev. Co.'s No. 1 R. L. Hardy, SW cor. NE NE, Sec. 6-13-7 .....Drlg. 1,500 ft.

HOT SPRINGS COUNTY

Star Oil Co.'s No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 .....S.D. 1,300 ft.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 430 ft. S, 220 ft. W, NE cor. NE SW, Sec. 5-8-7 .....Drill stem stuck 2,800 ft.

LITTLE RIVER COUNTY

Roberts Oil Co.'s No. 1 H. J. Russell, 330 ft. E, 330 ft. S, NW cor., Sec. 25-12-29 .....Location.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26 .....S.D.; W.O. 3,570 ft.

MILLER COUNTY

W. R. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-20-27 .....S.D. 1,955 ft.

OUACHITA COUNTY

Bolin & McLeon's No. 1 L. D. Nealy, 150 ft. S, 150 ft. W, NE cor. SE SW, Sec. 25-16-15 .....S.D. 2,036 ft.
Copenhaven et al's No. 2 Berg, Sec. 13-15-17 (no check)..Rigging up.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14 .....T.A. 2,909 ft.
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 31-8-24 .....S.D.; W.O. 1,020 ft.
E. R. Henderson's No. 1 W. B. East, 200 ft. S, 150 ft. W, NE cor., Sec. 13-9-23 .....Began Aug. 22; drlg. 120 ft.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26 .....S.D.; T.D. 1,436 ft.
Waldron O. & G. Co.'s No. 1 White, NE cor. SW NW, Sec. 17-3n-29 .....S.D; waiting on csg. 1,860 ft.

SEBASTIAN COUNTY

Ozark Nat. Gas Co.'s No. 1 E. O. Girard, C NW NW, Sec. 34-8-30 .....Reaming 2,132 ft.

UNION COUNTY

Chapman & Wilson's No. 1 A. H. Hadley, 330 ft. N, 330 ft. E, SW cor. NE SW, Sec. 3-18-13 .....600 ft. fluid 30% S.W. in hole; T.A. 3,570 ft.

WASHINGTON COUNTY
(Cable tools)

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 .....S.D. for funds 1,795 ft.

YELL COUNTY
(Cable tools)

Tegmeier & Luckett's No. 1 Falcon, Sec. 26-7-21 .....S.D. 5,710 ft.

EAST TEXAS

BOWIE COUNTY

Hindeman & Ball's No. 1 Merritt (was Maud-Redwater Oil Co.'s), 175 ft. N, 175 ft. E, SE cor. G. W. Hardidge 100-ac. tr. on Floyd Merrit tr. in Y. S. McKinney Sur. .....S.D. 2,520 ft.
Logan & Elliott's No. 1 Smith, 9,600 ft. S, 2,500 ft. W, NE cor. Chas. Lewis Sur. .....Drlg. chalk 1,179 ft.
Tarkington & Jones' No. 1 W. W. Whybark, 200 ft. S, 300 ft. W, SW cor. J. H. Dyer Sur. .....S.D. 30 ft.
Lee Timberlake et al's No. 2 Tidwell, 2,510 ft. N, 655 ft. W, SE cor. T. M. Rice Sur. .....S.D. 3,000 ft.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tr. in J. H. Murphy Sur. .....S.D. 3,600 ft.

CASS COUNTY

E. K. Atkinson's No. 1 T. J. Wilson, 1,088 ft. S of N line, 2,376 ft. E of W line of H.R.S., J. R. McFarland Sur. .....S.D. 3,021 ft.
Davis & Piggs' No. 1 Roy Brian, SW cor. Roy Bryan 38-ac. tr., Albert H. Latimer Sur. .....S.D. 2,055 ft.
Everets Drlg. Co.'s No. 1 H. W. Whittington, 200 ft. S, and W, NE cor. 69-ac. Whittington tr., L. Strong Sur. .....S.D. 3,922 ft; waiting on D.S.
Geo. McKamis's No. 1 R. E. Hall, 150 ft. N, 150 ft. W, SE cor. Hall's 117-ac. tr., H. Buckler Sur. .....S.D; W.O. 4,080 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. .....S.D. 4,390 ft.
John Nelson's No. 1 T. A. Irvin, 200 ft. S and E, NW cor. McNary Harris Sur. .....S.D. 3,615 ft.
Olds & Smith's No. 1 Athony, 3,056 ft. W-E line, 856 ft. S-N line, J. C. Byers Sur. .....S.D. 3,100 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. .....S.D. 2,280 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 2,100 ft. E, NW cor., Wm. Davis Sur. .....S.D. 955 ft.
United North & South Co.'s No. 1-A Nickelberry, W. A. Irvin Sur., 300 ft. S and E, NW cor. Nickelberry 50-ac. tr. .....Rigging up.

HARRISON COUNTY

Gholson et al's No. 1 Bivins Farm Co., on J. K. Bivins, Jr.'s 320-ac. tr., Thos. Toby Sur. .....S.D. 2,759 ft.
Lloyd Oil Corp.'s No. 1 E. S. Timmons, 150 ft. from N line to 250 ft. from E line of 105-ac. tr., Findley Sur. .....Set 10-in. 240 ft; S.D; W.O.
O. O. Olford et al's No. 1 R. W. Bolding, 330 ft. E of SE cor. of J. B. Cullen's 161-ac. tr., 300 ft. N of N line of Mrs. C. L. Brown's 20-ac. tr., W. W. O. Stanfield Sur. .....S.D. 2,702 ft.
O. H. Parkening's No. 1 T. J. Taylor, C. Blk. 32, W. H. Payne Sur. .....S.D. 2,530 ft.
Ryan Consolidated Pet. Corp.'s No. 1 Dr. H. H. Key, 1,500 varas N of SE line, 500 varas E of SW line, of E. Carroll Sur. .....S.W. and abd. 5,818 ft.
Ryan Consolidated Pet. Corp.'s No. 1 J. M. Furh, 1,300 ft. N of NW cor. T. J. Copelin Sur., 1,675 ft. SW at right angles to NW SE line of O'Neal Sur. ....Derrick.
Thomas & Kinsey's No. 1 J. R. Watson, Thos. Iden Sur..Rigging up.

MARION COUNTY

Gist, Claunch & Dodson's No. 1 Miller, 1,470 ft. E line, 725 ft. N line, SW cor. H. Fulgran H.R. Sur. .....S.D. 300 ft.
Geo. Hindeman et al's No. 1 F. V. Lindsey, 2,500 ft. S, most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. .....S.D. 2,380 ft.
Hindeman & Rhondo's No. 1 McGaughey, 1,547 ft. W most northerly SW cor., 1,638 ft. N most northerly S line, W. J. Willis Sur. .....S.D. 3,910 ft.

PANOLA COUNTY

Hoffer et al's No. 1 Cameron Lbr. Co., center 1,306-ac. tr. in W. M. A. LaGrove Sur. .....Derrick.
Moses & Wallace's No. 1 Daniel, 660 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur..Spudded and S.D.
G. A. Davidson's No. 1 Latham, Wm. Rich Sur. .....S.D; changing to heavy rig 550 ft
J. L. Nelson et al's No. 1 J. W. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr. in Jas. Hanks Sur. .....S.D. 1,500 ft.; laying water line.
United Gas Public Service Co.'s No. 11 Werner, 1,162 ft. N. 2,418 ft. W, SE cor. D. B. Lewis Sur. .....Rigging up.

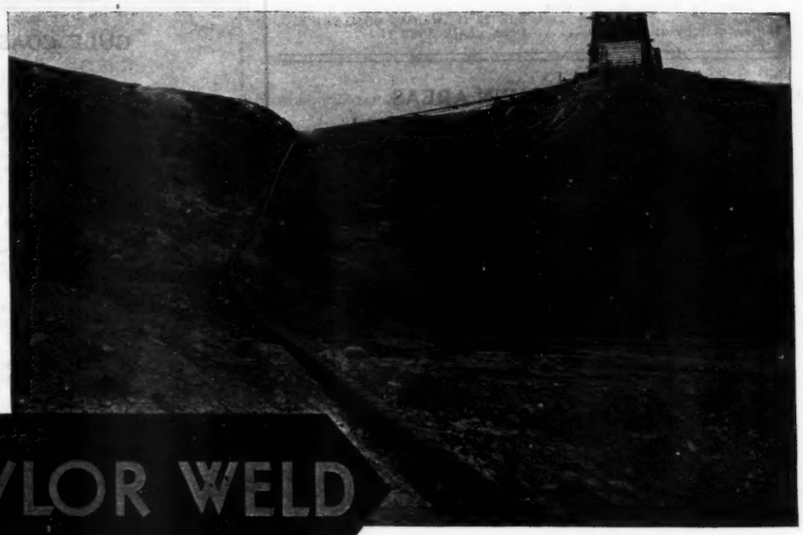
RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. ..S.D. 2,795 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. ....S.D. 3,280 ft.

SHELBY COUNTY

I. M. Bradley's No. 1 Ashberry (no check), G. W. Mitchell Sur. .....S.D. 3,280 ft.
E. L. Chapman's No. 1 Pickering Lbr. Co., C. E. Henry (headright) .....Arrng. to set 4½-in. csg. at 3,864 ft.
Chapperell Oil Co.'s No. 2 Holt, Matthew Moore Sur. ..S.D. 3,137 ft.
K. H. Francis' No. 1 John Mims, Mary Smith Sur. ....Reaming to bottom 2,486 ft.
H. P. Glidden's No. 1 Pickering Lbr. Co., Jonas Harrison Sur., 300 ft. E of NW cor., 150 ft. S of N line at right angles Pickering 59-ac. tr. .....T.A. 3,854 ft.
H. H. Gracey's No. 1 J. A. Morrison, 1,500 ft. N, 200 ft. E. SW cor. J. A. Morris' 109-ac. tr., Wm. English Sur. .....S.D. 2,600 ft; drlg. wtr. well.
T. A. Martin's No. 1 J. B. Bush, S 3 degrees E, 2,000 ft. from NW cor. J. B. Bush's 77-ac. tr., thence E at right angles to said line 200 ft., Alfred Lindsey Sur. .....Derrick.
Henry Maulding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 80-ac. tr., A. D. Fountain Sur. .....S.D. 3,000 ft.
McRoby et al's No. 1 Windham, Wm. Leach Sur., on Windham 296-ac. tr. .....Rigging up.

8-inch, 30 foot lengths of Naylor SPIRALWELD Pipe laid in Texas. Note flexibility of the pipe.



The NAYLOR WELD

The principal function of the Naylor WELD is to seal the pipe leak tight. The Naylor spiral lock-seam truss relieves the WELD of expansion and contraction strains. This is an exclusive and distinctive property found only in Naylor SPIRALWELD Pipe.

In addition to its distinctive WELD, Naylor SPIRALWELD Pipe is also STRONG...LIGHT...and DURABLE. Use it on your air, water, gas and oil lines, because its many outstanding advantages make it a sound, profitable pipe investment.

TRADE MARK NAYLORPIPE

PIPE CARRIED IN STOCK AT CHICAGO, HOUSTON AND LOS ANGELES

NAYLOR PIPE COMPANY

Main Office & Plant, 1230 East 92nd Street, Chicago

SALES OFFICES

NEW YORK 2116 Chrysler Building

PHILADELPHIA Witherspoon Building

TULSA 507 Philtower Building

HOUSTON 2301 Commerce Street

DALLAS: 305 Magnolia Building

LOS ANGELES: Champion & Barber, Inc., 576 Subway Terminal Building., Exclusive Distributors: California, Nevada and Arizona

MONTREAL, CANADA: Mechanical Equipment Company, 660 St. Catherine St., West

VANCOUVER, B. C.: Gordon & Belyea, Ltd., 101 Powell Street

MARACAIBO, VENEZUELA: Patrick H. Heaney, Apartado 298

MEXICO: C. H. Elstner, Apartado 284 Monterrey N. L.

Geo. N. Pace's No. 1 E. H. Powers, western J. Timms Sur., 150 ft. E of W line, 200 ft. N of S line Powers 126-ac. tr. ..... Derrick.
Ridgeway et al's No. 1 Polley, Domingo Gonsales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. ..... Spudding in.
Schultz et al's No. 1 Hughes, 150 ft. SW cor. Hughes' 110-ac. tr., J. Clay Sur. ..... S.D. in shale 4,155 ft.
Sloan Prospecting Co.'s No. 1 Sanford, approximately
A. D. Smith's No. 1 Y. D. Carroll-J. A. Parker Sur., 1,500 ft. N, 300 ft. W, SE cor. J. A. Carroll Sur. .... S.D. repairing rig 2,750 ft.
C. H. Tautenhahn's No. 1 J. C. Bogard, 300 ft. S, 900 ft. E, NW cor. J. C. Bogard's 52-ac. tr., Thomas Baker Sur. ..... S.D. 20 ft; waiting on D.S.
Tenant et al's No. 1 J. Henry, C. Z. Walker Sur. ..... Drlg. chalk 3,360 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 41)

W. M. Coates' No. 1 Bowman-Hicks, 330 ft. S and W of C, Sec. 2-7-12 ..... Set 6-in. 2,232 ft.
Dengall O. & G. Co.'s No. 1 Nulton, SE cor. NW NE, Sec. 1-7-13 ..... Set 6-in. 2,191 ft.
Hawkins et al's No. 1 Moran, Sec. 1-7-11 ..... 400 ft. oil in hole 2,620 ft; W.O. S.R.
O. A. Gautier et al's No. 1 Mischell, 330 ft. E, 150 ft. N, SW cor. SE NW, Sec. 30-8-12 ..... Testd dry; S.O. 2,400 ft.
Hawkins & Antoon's No. 1 Newton, Sec. 1-7-11 ..... W.O., S.R. 2,609 ft.
Hudson & Bird's No. 1 Walden, 480 ft. N, 300 ft. E, SW cor. SW NE, Sec. 26-8-11 ..... S.D. 1,625 ft.
Lanier & Dyer's No. 1 Barthold, 335 ft. N, 525 ft. E, SW cor. SE NE, Sec. 35-8-12 ..... Began Aug. 20; set 10-in. 100 ft; drlg. 1,100 ft.
Zeke Lohman's No. 1 McCormick, 660 ft. E, 330 ft. N, SW cor. NE SW, Sec. 2-7-11 ..... S.D. 1,606 ft.
Loring Oil Co.'s No. 18 Bowman-Hicks, 1,320 ft. S, 275 ft. E. NW cor. SW NW, Sec. 15-7-12 ..... Derrick.
Loring Oil Co.'s No. 19 Bowman-Hicks, 1,475 ft. W, 75 ft. S, NE cor. SW NE, Sec. 16-7-12 ..... Location.
Lyons & Neely's No. 1 Duggan, NW SE, Sec. 14-7-11.... Location.
L. K. McGuffin's No. 1 Bush, NW cor. NW SE, Sec. 1-7-11 ..... S.D. 400 ft.
Ben Merritt, tr.'s No. 2 Byrd, Sec. 1-7-11 ..... S.D. 88 ft.
Houston-Sabine Prod. Co.'s No. 1 Sabine Lbr. Co. (was Triangle Pet. Co.'s No. 2 Sabine Lbr. Co.), 330 ft. N and E, SW cor., Sec. 36-8-12 ..... S.D. 2,440 ft.
Pelican Nat. Gas Co.'s No. 10 La. Long Leaf Lbr. Co., 105 ft. S, 188 ft. W, NE cor. NE NE, Sec. 10-7-11.. Derrick.
H. W. Perritt's No. 5 Bowman-Hicks, 330 ft. S, 410 ft. E. NW cor. SW SW, Sec. 2-7-12 ..... Rigging up.
The Texas Co.'s No. 1 L. C. DeLatin, 1,120 ft. W, 200 ft. N, SE cor., Sec. 3-7-11 ..... Rigging up.

ARKANSAS

UNION COUNTY—EL DORADO

Lion O. & R. Co.'s No. 9-A G. P. Hayes, 242 ft. S, 246 ft. W, NE cor. Lot 5, NE, Sec. 4-16-15 ..... Ratholing in hard red shale 5,194 ft.
Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-15 ..... S.D. 2,608 ft.

UNION COUNTY—URBANA

Marine Oil Co.'s No. 1 Winn est., 330 ft. S and E, NE cor. 8½ NW, Sec. 11-18-13 ..... T.A. 3,536 ft.
Marine Oil Co.'s No. 2-E Thompson, 330 ft. N, 330 ft. E, SW cor. NE NE, Sec. 10-18-13 ..... Location.
Wilson & Chapman's No. 1 H. Norman, 330 ft. N and E, SW cor. SE NE, Sec. 3-18-13 ..... Drlg. shale 2,816 ft.

EAST TEXAS

PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur. .... S.D. 3,364 ft; wtr.
Dillon & Braham's (was W. G. Banks et al's) No. 1 C. O. Baldwin, 1,395 ft. W, 1,362 ft. S, NE cor. Baldwin 290 ac. in Hampton West Sur. ..... S.D. 1,555 ft.
United Prod. Corp.'s No. 17 Steele, 1,320 ft. N, 660 ft. W, SE cor. C. D. Steele lse., in B. C. Jordan Sur. .. Location.
Southwestern O. & G. Co.'s No. 1 E. R. Vinson, 3,005 ft. S, 1,001 ft. W, NE cor. C. T. Anderson Sur. .... S.D. 2,650 ft.

MISSISSIPPI

RANKIN COUNTY

James Alexander, tr.'s No. 1 Wright Cast Stone Co., 200 ft. S, 1,460 ft. NE cor. NE NW, Sec. 13-5n-1e .. Derrick.
J. E. Grandstaff et al's No. 1 Burford, 2,210 ft. E, 800 ft. N, SW cor., Sec. 11-5n-1e ..... Rigging up.

WILDCAT OPERATIONS IN MISSISSIPPI

ADAMS COUNTY

Company, farm and location—	Remarks:
Ark-La P. L. Co.'s No. 1 Brandon Hall Farms, 201 ft. from W line, 390 ft. from S line, Lot 32, Brandon Subd., Sec. 61-18n-1w	Rigged up and S.D.

CLARKE COUNTY

Gulf Ref. Co.'s No. 1-A Long Bell Lbr. Co., C SW SW, Sec. 10-2n-16w ..... Set 10¾-in. 957 ft.

CLAY COUNTY
(Cable tools)

Ohio Oil Co.'s No. 1 Cantrell, NE cor., Sec. 16-15-5 ..... S.W. and abd. 4,680 ft.

HINDS COUNTY

Howard Oil Co.'s No. 1 Jackson College, C NW NW, Sec. 9-5-1e ..... S.D. 74 ft.
Southern Pet. Co.'s No. 1 Wilson (was Tri-State O. & G. Co.'s), 320 ft. E, 240 ft. N, SW cor. SE NE, Sec. 28-6-1e ..... S.D. 20 ft; W.O.

HUMPHREYS COUNTY

Danciger O. & G. Co.'s No. 1 Belgrade Lbr. Co., C NW, Sec. 29-14n-4w ..... S.D. 659 ft. for surface csg.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keyes, C NW NE, Sec. 2-12-9 ..... S.D. 2,360 ft.

JEFFERSON COUNTY

Stokes & Cleve Love's No. 1 Phillips, Sec. 14-16n-2w .. Dry and abd. 2,302 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D. 3,015 ft.
McAlpine et al's No. 1 Cowart, second hole, Sec. 2-12-19. S.D. 3,404 ft.

NEWTON COUNTY

Bob Talton et al's No. 1 Majure, 400 ft. N, 600 ft. W, SE cor., Sec. 25-16n-11e ..... Rigging up.

NOXUBEE COUNTY

Thompson & Donohue's No. 1 Donohue, Sec. 25-16n-17e .. S.D. for fuel 1,715 ft.

RANKIN COUNTY

Attkisson & Dyer's No. 1 Valentour, 200 ft. S, 200 ft. E, NW cor., Sec. 13-5n-3e ..... S.D. 31 ft.
Gulf Ref. Co.'s No. 1-A Hanna, Sec. 23-6n-1e ..... D.S. stuck 2,745 ft.; T.D. 2,815 ft.
Hardin & Flint's No. 1 Webb, center Lot 32, Blk. B, East Jackson Pl., Jackson City Subd., Sec. 12-5-1 .. S.D. 830 ft.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e. Derrick.
Meredith et al's No. 1 Allen, 470 ft. W, 295 ft. N, SE cor. SW, Sec. 12-5n-1e ..... Rigging up.
R. A. Moore et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e.. S.D. 900 ft.
Square Deal O. & G. Co.'s No. 1 Spann, NW cor. SE NE, Sec. 13-5n-1e ..... Sidetracking 4-in. csg., T. D. 2,321 ft.
Willis & Culley's No. 1 Applewhite & Holden, 10 ft. N, 60 ft. E, SW cor., Sec. 12-5n-1e ..... Derrick.

SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-8-9 ..... Derrick.

WARREN COUNTY

Eagle Bend O. & G. Co.'s No. 1 Kiger, SW cor. SW SE, Sec. 9-18-2 ..... S.D. 2,607 ft.

WEBSTER COUNTY

P. J. McAlpine's No. 1 Henly (was Cumberland Oil Co.'s No. 1 Henly), SE NW, Sec. 15-21n-11e ..... S.D. 1,800 ft.

WINSTON COUNTY

Miss. Drlg. Co.'s No. 1 Scarbrough, NW cor., Sec. 15-12-14 ..... S.D. 3,681 ft.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 43)

Cullen & West and Gulf Prod. Co.'s No. 3-A Lockwood & Sharp, J. Rabb Sur., 600 ft. E of No. 2-A.. Location.
Cullen & West and Gulf Prod. Co.'s No. 2 H. P. Lockwood, J. Rabb Sur., 300 ft. N and 900 ft. W out of SW cor. 383-acre tract ..... Location.
Cullen & West and Gulf Prod. Co.'s No. 2 A. P. George, J. Rabb Sur., 300 ft. S and 905 ft. E out of NW cor. 200-acre tract ..... Drlg. gumbo 312 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 6 Lost Lake, 2,381 ft. W and 289 ft. S of No. 5 in Lost Lake ..... Derrick.

NASH—FORT BEND COUNTY

Harrison & Abercrombie's No. 15 Nash, Thomas Alsbury S League, 450 ft. E and 75 ft. S of Rycade Oil Corp.'s No. 13 Nash ..... No report.

MOSS BLUFF—LIBERTY AND CHAMBERS COUNTIES

Humble Oil & Ref. Co.'s No. 8 Sterling, James McFaddin Sur., 150 ft. from N line and 1,650 ft. from E line of 512-acre tract ..... Drlg. sticky shale 2,330 ft.

REFUGIO—REFUGIO COUNTY

Mission Drilling Co.'s No. 1 O'Brien (W.O.), SW cor. 1½-acre tract, Refugio Town Tract ..... Drlg. shale 6,565 ft.
Moody-Seagraves Prod. Co.'s No. 4 O'Connor, Refugio Town Tract, 150 ft. from N line and 1,282 ft. from W line of 60-acre tract ..... T.D. 6,477 ft; plugged to 6,435 ft; standing.
Pearson Properties' No. 3 Ryals, 536 ft. from W line and 150 ft. from S line 52-acre tract, Refugio Town Tract ..... Sand 6,450-60 ft; set 18 ft. of screen; completed flowing 120 bbl. daily; two ¼-in. chokes; 1,750 lbs. pressure on tubing.
L. L. Smith's No. 1 L. M. Rogers (W.O.), C of Blk. 87, Refugio Townsite ..... T.D. 6,457 ft; cmtd. 4¾-in. csg. 5,300 ft; set whipstock.
United Prod. Corp.'s No. 6 O'Brien, 150 ft. from S line of tract, 350 ft. W of No. 3 ..... Oil sand 6,438-51 ft; twisted off joint drill stem; fishing.
United Prod. Corp.'s No. 4 M. F. Lambert, Wm. Hews and L. Brown Sur., 2,514.7 ft. NE along NW line from SE cor. lease and 330 ft. NW at right angles... Drlg. sticky shale and lime 4,427 ft.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Vacuum Oil Co.'s No. 5-A Farquahar, 105 ft. S and 110 ft. E of NW cor. SW NE, Sec. 8-10s-9w ..... Fished out stuck drill stem 6,079 ft; cleaning hole to resume drilling.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 10 Housierre-Latrielle, 5,435 ft. E and 1,070 ft. N of SW cor., Sec. 47-9s-2w ..... Drlg. hard sand 6,708 ft.

EDGERLY—CALCASIEU PARISH

Rex Petroleum Co.'s No. 2 Prairie Narroni, Sec. 21-9s-11w, 125 ft. from S line and 50 ft. from W line of tract ..... Set 2 joints 4½-in. screen 4,387 ft; bailing.

HACKBERRY—CAMERON PARISH

R. E. Seiss' No. 2 J. M. Vincent ..... T.D. in rock 2,402 ft.; cemented 6⅝-in. casing 2,004 ft.
The Texas Company's No. 8 State ..... Derrick.

VINTON—CALCASIEU PARISH

Vinton Pet. Co.'s No. 11 Matilda Gray, Sec. 33-10s-12w, 600 ft. from S line and 195 ft. from W line (D.D.) ..... Pulling screen and liner to deepen 3,467 ft.

MISCELLANEOUS WILDCATS

TEXAS

BRAZORIA COUNTY

Cullen & West's No. 1 Nash, Thomas Alsbury Sur. No. 4, 2,600 ft. E and 1,240 ft. S of SW cor. Mrs. R. L. Young 1,483-acre tract ..... Drlg. shale and lime 5,115 ft.
The Texas Company's No. 1 Belcher, Manvel, 167 ft. SE of NW line and 223 ft. of NE of SW line, Lot 18, Blk. A, Suburban Gardens Subd. ..... Sand and shale showing oil 5,461-81 ft; running 9⅝-in. csg.
United Oil Syndicate's No. 1 Levitt, 900 ft. from W line and 400 ft. from S line of John Peske Sur. ..... Drlg. gumbo and lime 1,558 ft.

BURLESON COUNTY

Reynolds Oil Co.'s No. 1 Harris, 500 ft. from W line and 400 ft. from N line of J. M. McKean Sur. ..... S.D. 400 ft.
Marts et al's No. 1 W. H. Boyett, W. McWilliams Sur., 3,168 ft. N of N cor. of City National Bank 208-acre tract and 300 ft. SE of NW line of Boyett tract.. Washing to bottom 2,354 ft.

FORT BEND COUNTY

Stone & Wyman's No. 1 Beard, H.&T.C. Sur. No. 118, 1,150 ft. from NW line and 1,892 ft. from NE line.... No report.

GRIMES COUNTY

Rianjo Oil Co.'s No. 2 Cuthrell, Pat B. O'Connor Sur., C of 110-acre tract ..... Drlg. shale and shell 787 ft.

HARDIN COUNTY

D. O. Speight's No. 1 Guedry, 4 miles S of Baton ..... No report; previous report drlg. sand and shale 4,324 ft.

HARRIS COUNTY

Givens & Daybault's No. 1 Lobit, David Middleton Sur., Blk. 19, Lobit Subd. ..... Drlg. shale 1,553 ft.
Humble Oil & Ref. Co.'s No. 5 Minnetex, Mykawa, 150 ft. from S line and 200 ft. from W line, Lot 261, Wm. Lovett Sur. ..... Location.
J. P. Hunnicutt's No. 1 Haney, T. Pitching Sur., 150 ft. out of NE cor. of Geo. E. Haney 730-acre tract..... Location.
Louisiana Oil & Dev. Co.'s No. 1 J. W. Wilson, W. Ritchie Sur. ..... Location.
Shubert & Alexander's No. 1 Herman Hale, 1,058 varas E of NW cor. R. A. Hanks Sur., thence 790 varas S and thence 70 varas W 74° ..... Rig.

JACKSON COUNTY

Chicago Gulf Co.'s No. 1 Rogers, SE cor. of Blk. 14, N. Rodriguez Sur. ..... T.D. 3,952 ft; cmtd. 6⅝-in. csg. 3,945 ft.
Chicago-Gulf Oil Co.'s No. 9 Drushell, Edna F. Rodrigues Sur., 1,080 ft. N, 58° E No. 8 ..... Derrick.
Francitas Oil & Land Co.'s No. 1 Thrull, 3,260 ft. SW of N cor., P. Green Sur., 540 ft. SE of E bank Caranchua Creek ..... Derrick.

LIBERTY COUNTY

J. R. Ingram's No. 1 C. T. Palmer, James Fenner Sur., 1,000 ft. from W line and 850 ft. from S line of tract.. Drlg. gumbo 2,550 ft.

Hamm et al's No. 1 Harvard, Davis Hill.....Gumbo 1,015 ft; S.D.
Tucker et al's No. 1 Bell, H.&T.C. Sur. No. 4.....S.D. 2,970 ft.

MONTGOMERY COUNTY

Strake et al's No. 1 South Texas Dev. Co., A. McGowen Sur., 468 ft. in westerly direction along N line of Theo. Slade Sur. from SW cor. and thence 750 ft. in southerly direction at right angles from said line.....Location.

ORANGE COUNTY

Altex Oil Co.'s (Veteran Oil Co.) No. 1 Reed, A. Nelson Sur. No. 1, 500 ft. from N line and 250 ft. from E line of tract.....T.D. 4,603 ft; sidetracked 1,200-2,200 ft; S.D.

Crew Oil Co.'s No. 1-A Mansfield, 50 ft. E of No. 1.....No report; previously reported depth 1,443 ft.

POLK COUNTY

Freeman et al's No. 2 Freeman.....S.D. 3,124 ft.

T. B. Hoffer's No. 1 Saner-Ragly Lbr. Co., 300 ft. out of most northerly cor. of most easterly County School Land Abst. 271.....Derrick.

Sunshine Oil Co.'s No. 1 Olliver, A. Viesca Sur., 600 ft. NE along SE line from S or SW cor. of 50-acre tract and thence 200 ft. NW at right angles.....No report; previously reported depth 3,502 ft.

Trans-Coastal Oil Co.'s No. 1 M. E. Roberts, J. F. Rumayor Sur., 350 ft. from W line and 150 ft. from N line of tract.....No report; previously reported depth 734 ft.

REFUGIO COUNTY

Blanco Creek Oil Co.'s No. 1 Damaan, 150 ft. from N line and 150 ft. from W line of Blk. 14, Bonnie View Ranch Subd.....Drlg. shale 4,607 ft.

Humble Oil & Ref. Co.'s No. 1 O'Connor, John Keating Sur., 6,012 ft. S from NE cor. along SE line of Lon T. Ross Sur., thence 7,375 ft. W at right angles in John Keating Sur.....Sandy shale showing oil 2,328-49 ft; to make drill stem test.

TYLER COUNTY

King Oil Co.'s No. 1 Caswell.....Sand and shale showing oil 1,25[illegible] ft; cmtd. 6-in. csg. 1,218 ft.

Allied Pet. Co.'s (Texas Southern Pet. Co.) No. 3 Wilson, Mrs. E. Cherry Sur. No. 798, 1,500 varas from W line and 600 varas from N line.....No report; previously reported depth 5,025 ft.

VICTORIA COUNTY

Houston Oil Co.'s No. 1 Conrad, T.&N.O. Sur. No. 1, 1,100 ft. from SW line and 100 ft. from NW line.....T.D. 5,003 ft; drill stem stuck in heaving shale showing gas cmtd. 8¼-in. csg. 4,740 ft. to protect hole while fishing.

The Texas Company's No. 3 McFaddin, S 15° W., 6,200 ft. and N 75° W 1,850 ft. out of NE cor. John M. Hine Sur.....Drlg. shale 3,800 ft.

United Prod. Corp.'s No. 5-A McFaddin, 4,250 ft. N along extended E line of C. L. Mann Sur., in Maria Traviesa Sur.....Drlg. shale 2,369 ft.

WALLER COUNTY

McDaniel and associates' No. 1 Citizens State Bank, B.B.B.&C. Sur., C of 150-ac. tract.....Rig.

WASHINGTON COUNTY

Penn-Tex Oil Co.'s No. 2 Kamas Brenham, S. M. Williams Sur.....Drlg. hard sand 3,214 ft.

WHARTON COUNTY

Bonds & Alexander's No. 1 Hahn, S.A.M.G. Sur., Sec. 13, 800 ft. W and 200 ft. N of NE cor. 152.1-ac. tract.....Drlg. gumbo 977 ft.

SOUTH LOUISIANA

CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w.....S.D. 875 ft.
I. O. Davis' No. 1 Industrial, Sec. 29-9s-10w.....Standing 6,568 ft.
Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w.....S.D. 3,650 ft.
Success Oil Co.'s No. 1 Hewitt, 90 ft. out of SW cor., Sec. 11-9s-11w.....Rig.
Vacuum Oil Co.'s No. 1 Wait (D.D.), 225 ft. out of SE cor., Sec. 12-9s-7w.....Sand showing oil 6,961-79 ft; to reset 7-in. csg.

CAMERON PARISH

Vacuum Oil Co.'s No. 2 Cameron Meadows, 3,120 ft. S and 1,900 ft. W from NE cor., Sec. 21-14s-9w (500-ft. S No. 1).....Drlg. shale 4,527 ft.
The Texas Company's No. 7 State, Calcasieu Lake.....Location.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 21 Lake Peigneur, Sec. 58-12s-5e, 300 ft. NW of No. 20.....Cap rock 529-668 ft; showing sulphur; standing.

Jefferson Lake Oil Co.'s No. 22 Lake Peigneur, Sec. 58-12s-5e, 600 ft. NW of No. 21.....Location.
Jefferson Lake Oil Co.'s No. 23 Lake Peigneur, Sec. 58-12s-5e, 600 ft. NW of No. 22 in line with No. 21..Location.

IBERVILLE PARISH

Standard Oil Co.'s No. 1 Myrtle Grove-Wilbert, Bayou Choctaw, Sec. 52-9s-11e, 250 ft. W No. 1 Gray.....Drlg. gumbo 1,512 ft.
Standard Oil Co.'s No. 7 Wilbert, Bayou Blue.....Derrick.

Standard Oil Co.'s No. 6 Schwing, Bayou Blue, Sec. 73-9s-11e, 317 ft. S of No. 2.....T.D. 4,075 ft; sidetracked at 3,530 ft; drlg. gumbo 3,872 ft.

Standard Oil Co.'s No. 7 Schwing, Bayou Blue, Sec. 74-9s-10w, N 45°, W 1,800 ft. from No. 5.....T.D. 1,350 ft; sand showing oil 1,307-12 ft.; S.D. pending completion of No. 6.

PLAQUEMINES PARISH

La. Gas & Fuel Co.'s No. 2 Minor, 3,480 ft. S and 1,980 ft. E of NW cor., Sec. 3-18s-16e.....Rig.

Humble O. & R. Co.'s No. 5 Cockrell-Moran, Lake Grand Ecaille, 10,377 ft. N and 2,614 ft. W of NE cor. of Twp. 21s-26e.....Location.
Humble O. & R. Co.'s No. 6 Cockrell-Moran, Lake Grand Ecaille, Twp. 21s-26e, 5,000 ft. E of Washington Sta.....Location.

TERREBONNE PARISH

Humble Oil & Ref. Co.'s No. 2 State, Lake Grand Ecaille, Sec. 14-20s-26e.....T.D. 1,481 ft; reaming to bottom.
The Texas Company's No. 1 La.L.&E., Bay St. Elaine.....T.D. 5,700 ft; drill stem stuck; set whipstock 4,807 ft; milling out to sidetrack.

The Texas Company's No. 3 La.L.&E., Bay Junop.....Location.
The Texas Company's No. 4 La.L.&E., Bay Junop.....Location.
The Texas Company's No. 10 State, Lake Barre.....Location.
The Texas Company's No. 11 State, Lake Barre.....Derrick.
The Texas Company's No. 12 State, Lake Barre.....Location.
The Texas Company's No. 13 State, Lake Bane (W.O.)..Formerly abd. in salt 4,543-4,900 ft; sidetracking 1,195 ft.
The Texas Company's No. 14 State, Lake Barre.....Location.
The Texas Company's No. 6 State-Lake Pelto (D.D.), 1,650 ft. N and 670 ft. W from SE cor. tract, Sec. 8-23s-18e.....Cap rock 1,843 ft; cmtd. 9⅝-in. csg. 1,776 ft; drlg. plug.

VERMILLION PARISH

Pure Oil Co.'s No. 1 Alliance Land, Sec. 34-11s-1w, 2,600 ft. N and 300 ft. E of SW cor., section.....Drlg. hard sandy lime 6,352 ft.
Pure Oil Co.'s No. 2 Southwest Louisiana Land Co., 1,300 ft. E and 300 ft. S of NW cor., Sec. 4-12s-1w..Drlg. coarse gravel 930 ft.

WEST FELICIANA PARISH

Putnam Syndicate's No. 2 Como Plantation, Sec. 51-1s-4w..Shale and lime 2,050 ft; waiting on 8¼-in. csg.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 39)

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w.....Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15.....Shut down 2,058 ft.

RAWLINS COUNTY

J. G. Durham et al's No. 1 Weaver, SE cor. Sec. 3-2-35w..Shut down 3,501 ft.

RICE COUNTY

Detrick & Langston's No. 1 Purcell, NW cor. Sec. 33-19-9w.....Conglomerate 3,325-46 ft.; show oil and water; T. D. 3,375 ft.; plugging back to 3,325 ft.

Cress et al's No. 1 Sharp, SE NE Sec. 13-20-10w.....Show oil 3,107-15 ft.; Silicious 3,-330-36 ft.; estimated 1,500 bbls.; shut in.

Allison-Fitzwilliams' No. 1 Blake, NE NW Sec. 9-18-10w..Shut down 3,311-19 ft.; show water.

RUSH COUNTY

Dewey & Mitchell's No. 1 Greenawalt, C SW Sec. 17-19-16w.....Show of oil in Conglomerate 3,835-80 ft.; to shoot.

RUSSELL COUNTY

Agate Oil & Gas Co.'s No. 1 Rochfellow, SE cor. Sec. 6-13-12w.....Shut down 3,374 ft.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w....Show oil 3,090-94 ft.; shut down 3,504 ft.; plugging back to 3,-189 ft.

SEDGWICK COUNTY

Magnolia's No. 1 McLaughlin, NW cor. Sec. 31-28-1w....Drlg. 3,150 ft.; 2,000,000 ft. gas at 2,548-64 ft.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W half NE NW Sec. 20-13-4w.....Fishing 2,710 ft.

SHERIDAN COUNTY

Flo et al's No. 1 Shoemaker, SE SW Sec. 27-7-26w....Shut down 2,445 ft.

STAFFORD COUNTY

Rosenthal, Stanolind and Amerada's No. 1 Gray, C NE Sec. 11-24-13w.....Shut down 2,900 ft.

STEVENS COUNTY

Argus Prod.'s No. 2 Christopher, C NE Sec. 10-33-39w..Shut down 5,521 ft.

SUMNER COUNTY

Tighe et al's No. 1 Thieson, C NW SE SE Sec. 22-34-2..Shut down 2,100 ft.
Trees Oil Co. and Shell's No. 1 Springate, NE SE SW Sec. 6-34-2.....Shut down 1,435 ft.
Spencer et al's No. 1 Porter, NE SW Sec. 12-33-4w.....Drlg. 3,230 ft.
Otstot et al's No. 2 Marlow, C SE NW SE Sec. 22-33-3w..Fishing 4,150 ft.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE Sec. 16-3-3....Shut down 1,720 ft.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 38)

KAY COUNTY

Lewis et al's No. 1 Harris, SE NW, Sec. 14-25-1.....Location.
Mummert Drlg. Co. et al's No 1 Cormick, C NW SE, Sec. 9-27-2.....Shut down 3,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w.....Rig on ground.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE, Sec. 8-7-18w.....Shut down 820 ft.

LATIMER COUNTY

P. English's No. 1 Unknown, NW SE, Sec. 16-6-19.....Shut down 1,542 ft.

LINCOLN COUNTY

Mote et al's No. 1 School Land, NW cor., Sec. 36-17-5...Rigging up standard tools.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE, Sec. 32-9-16.....Shut down 5,733 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE, Sec. 21-11-19....Shut down 1,011 ft.

OKFUSKEE COUNTY

E L. Robinson's No. 1 Rice, NW, Sec. 2-10-9.....Location.
Shepard et al's No. 1 Neveas, SE NW SW, Sec. 3-12-10...Shut down 3,690 ft.

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor., Sec. 21-11-3w.....Shut down 1,200 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW, Sec. 17-11-3w.....Shut down 5,515 ft.
J. F. Cuniff, trustee's No. 1 Church Land, NE NW SE, Sec. 17-12-4w.....Shut down 6,700 ft.

PAWNEE COUNTY

Rookstool's No. 1 Wylie, NW NE SW, Sec. 6-20-5.....Shut down 1,950 ft.
Cochran et al's No. 1 Green, NE cor. SW, Sec. 15-23-5....Rig.

PITTSBURG COUNTY

Tape Oil Co.'s No 1 Fulton, SE, Sec. 34-7-14..... Drlg. 1,070 ft.
J. Morrison's No. 1 Fowler, NE SE, Sec. 13-7-17.....Rig.
C. Kennedy's No. 1 Travis, C SW NE, Sec. 15-7-14.....Rig.
C. Canady's No. 1 Jones, NW cor., Sec. 14-8-14.....Rig.

ROGERS COUNTY

Braman Oil Co.'s No. 1 Mare, C SW SE, Sec. 33-19-17....Shut down 438 ft.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW, Sec. 23-12-34w.....Shut down 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE, Sec 4-11-26w.....Shut down 3,030 ft.

SEMINOLE COUNTY

Sunray Oil Co.'s No. 1 Sunray, NW SE, Sec. 35-5-5.....Location.

WICHITA COUNTY

Cooper & Terhune's No. 1 Blocker, NW cor., Sec. 29-8-19w..Drlg. 2,218 ft.
Burns & Prince's No. 1 Deck, SW cor., Sec. 21-8-18.....Shut down 1,050 ft.

OKLAHOMA PANHANDLE

TEXAS COUNTY

Cimarron Utilities' No. 1 Unknown, C SE, Sec. 1-3-14....Shut down.
Three Way Oil Co.'s No. 1 Crane, SW NW, Sec. 11-1-18..Shut down 4,750 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire's No. 1 R W. Rowland, NW NE SE, Sec. 18-3s-10.....Drlg. 930 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW, Sec. 7-7-10.T. D. 650 ft.
Bush et al's No. 1 Commerce Trust, NE cor., Sec. 35-6s-9.....T. D. 740 ft.; plugged back to 450-80 ft.

JEFFERSON COUNTY

Smith's No. 1 McCarty, SE NW NE, Sec. 18-4s-8w.....Location.

LOVE COUNTY

Autrey et al's No. 2 Cross, CWL SE NE, Sec. 27-6s-2.....Show oil and gas 970-72 ft. and 1,324-34 ft.; T. D. 1,509 ft.; shut down.

MARSHALL COUNTY

Taliaferro et al's No. 1 fee, NW SE SE NW, Sec. 34-5s-5.....Shut down 580 ft.
McCrory et al's No. 1 Little, NW SW, Sec. 30-7s-6.....Bailing 10 bbls. of oil 495-97 ft.; recemented csg.; pumped 110 bbls. 30 hrs.
D. H. Curry's No. 1 Ward, NE SE SW, Sec. 15-5s-6.....Shut down 2,310 ft.

McCURTAIN COUNTY

The Oil Journal's No. 1 Parks, C NE SW, Sec. 17-6s-23..Drlg. 490 ft.
Stewart's No 1 Patterson, C SE SE, Sec. 7-6s-24.....Shut down 840 ft.

PUSHMATAHA COUNTY

George's No. 1 Lane, NW SE, Sec. 32-3s-15.....Shut down 840 ft.
Whitehead et al's No. 1 Messer, SE SW SW, Sec. 35-3s-13.....Location.

STEPHENS COUNTY

Brown's No. 1 Hightower, SW SE NE, Sec. 15-3s-5w.....T. D. 989 ft.; show water.

TRET-O-LITE

PROCESS PATENTED

users receive patent protection under the valid patents of the Tretolite Company for treating crude oil emulsions and B. S. to pipe line requirements . . . By using the TRET-O-LITE process the element of uncertainty is completely removed.

TRETOLITE COMPANY

MANUFACTURING CHEMISTS

PLANTS AND LABORATORIES
DALLAS • ST. LOUIS • LOS ANGELES

REPRESENTATIVES

El Dorado, Kansas
McPherson, Kansas
Tulsa, Oklahoma
Oklahoma City, Okla.
Shawnee, Oklahoma
Bristow, Oklahoma
Wewoka, Oklahoma
Seminole, Oklahoma
Ardmore, Oklahoma
Blackwell, Oklahoma
Wichita Falls, Texas
Breckenridge, Texas
Houston, Texas
San Antonio, Texas
Wink, Texas
Refugio, Texas
Seguin, Texas
Longview, Texas
Pampa, Texas
Borger, Texas
Los Angeles, California
Seal Beach, California
El Dorado, Arkansas
Casper, Wyoming

AND PRINCIPAL FOREIGN FIELDS

OGJ 9-3 Gray

CANADIAN FIELDS

(Continued from Page 50)

caused by reasons other than the depletion of the field."

Imperial Drilling

Drilling activities by Imperial Oil, Ltd., are now limited to three tests, two in South Turner Valley and one in the border area. It may be regarded as practically certain that the company will start no new work in the Turner Valley until the oil situation materially changes.

In the South Turner Valley area, Southern Lowery's No. 3, LSD 4, Section 9-19-2w5, is standing cemented at 5,178 feet. Further south, Sterling Pacific Oil Co.'s No. 2, LSD 10, Section 33-18-2w5, is drilling below 3,446 feet.

On the Lethbridge structure, southern Alberta, Texas-Imperial's No. 1, LSD 14, Section 22-8-22w4, is drilling below 3,500 feet. This test is being drilled jointly by Imperial Oil, Ltd., and Texas Oil Co. of Canada, the former handling the drilling operations. The test has been in progress for nearly a year.

In the South Turner Valley, Hylo Oils' No. 1, LSD 12, Section 4-19-2w5, is reported down more than 3,700 feet and preparing to run 10-inch casing. Completion of the test is being financed by the Carscallen-Becker-Snyder syndicate with Clarence and George Snyder handling the drilling.

In the same general area, Miracle Oils' No. 2, LSD 16, Section 5-19-2w5, is reported drilling below the crooked hole sands at 4,460 feet. Miracle's No. 3, LSD 11, Section 4-19-2w5, is drilling below 3,560 feet.

In the far south, Mar-Jon-Freehold's No. 1, LSD 9, Section 28-18-2w5, is reported making new hole after cementing casing at 1,200 feet. Livingston Syndicate's No. 1, LSD 5, Section 34-18-2w5, is reported drilling below 1,965 feet.

In the Central Turner Valley, McLeod Oil Co.'s No. 3, LSD 16, Section 1-20-3w5, has deepened to 5,020 feet after cleaning out the old hole and recovering lost tools. Considerable additional wet gas with heavy naphtha content has been encountered. Further south and west, Dome Oils' No. 2, LSD 16, Section 36-19-3w5, is unofficially reported to have resumed drilling in the lime around 5,300 feet. This test had got a wet gas production in the upper lime, making around 6,000,000 feet a day, when the derrick was destroyed by fire.

In the North Turner Valley, United Oils' No. 4, LSD 2, Section 24-20-3w5, is reported standing cemented in the lime at 6,115 feet.

Hudson's Bay Tests

In the Keho Lake district, southern Alberta, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, LSD 2, Section 17-11-22w4, is reported making new hole at 4,375 feet after considerable trouble from caving.

In the Castor area, Hudson's Bay's No. 1 Paintearth, LSD 5, Section 27-39-15w4, is reported again fishing at 4,675 feet.

Reserve Dome

On the Alberta end of the international Reserve Dome structure, east of Coutts, Mayland Southern's No. 1 wildcat, LSD 13, Section 4-1-9w4, is reported drilling around 2,000 feet, with a lower oil horizon looked for around 2,200 feet. The gas flow from the upper sands is estimated between 10,000,000 and 15,000,000 feet a day. Further testing of this area will depend on results secured in the discovery well. W. J. O'Haire and associates of Montana have considerable acreage and a tentative location in SW, Section 10-1-9w4, a mile east of Mayland Southern's No. 1. Mercury Oils, Ltd., of Calgary also holds acreage, but has no interest in the Mayland Southern test, though A. H. Mayland is head of both companies. Southern Alberta Exploration Co. of Lethbridge is reported planning a test on its holdings in the same area if the Mayland Southern gets oil production.

Test in the Devonian

An interesting test on which work has just been resumed is Commonwealth Petroleums' No. 1, in LSD 9, Section 9-3-15w4. This location is on Verdigris Coulee, a portion of the Milk River ridge which extends northwesterly parallel to the railway line between Lethbridge and Coutts. The test got the Madison lime at 2,800 feet and entered the underlying Devonian lime at approximately 3,485 feet. At 4,932 feet it was shut down for some weeks, pending a decision as to further drilling. Work has now resumed, and it is planned to continue through the lower Devonian shales with standard equipment and later change to diamond drill. This is the only test in southern Alberta drilling in the Devonian lime, though Hudson's Bay Oil & Gas Co.'s No. 1 Paintearth, in the Castor district, and Moose Oils' No. 1 on the Moose Dome have been carried into the Devonian. Commonwealth's No. 1 got some small shows of oil and gas at various depths in the lime, but no commercial production.

Border Fields

In the Twin River area, Parco Oil & Gas Co.'s No. 1, LSD 16, Section 34-1-20w4, is drilling in the Colorado shales at 1,750 feet after setting 16-inch casing at 1,456 feet. Location is on acreage of the Nordon Corp. which is assisting in the test.

On the Spring Coulee structure, Alberta Pacific Consolidated Oils' No. 1, LSD 12, Section 15-4-23w4, is preparing to resume operations. The test has been standing for some time at approximately 5,892 feet pending completion of Alberta Pacific's No. 1 Cole-Hunter, in the Taber area. The Spring Coulee well will be cleaned out and probably a number of shots put in to test the various oil horizons.

In the Cypress Hills area, Eagle Butte Oil Co.'s No. 2, LSD 4, Section 30-7-3w4, is reported deepening at 4,500 feet, after standing for over a year at around 4,200 feet. Eagle Butte's No. 1, LSD 3, Section 31-7-4w4, some years ago got a heavy gas flow at around 3,340 feet but on deepening water came in, coating the derrick with ice; and the well was apparently spoiled by the water intrusion. C. E. Roth and associates of Independence, Kans., are reported to be interested in the project. The drilling was originally started with a view to marketing gas to the Saskatchewan cities.

Tests in the Foothills

On the Moose Mountain structure, in the southern Alberta foothills, Graystone Consolidated's No. 2 Signal Hill, LSD 9, Section 34-23-5w5, is reported making new hole at 4,180 feet after encountering a fair flow of gas.

On the Aldersyde structure, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-29w4, is drilling below 5,030 feet.

On the Fisher Creek structure, north of Waite Valley, Cotton Belt Mines' No. 1, LSD 5, Section 21-21-4w5, is reported drilling around 1,700 feet.

On the Pincher Creek structure, Weymarn Petroleum' No. 2, LSD 5, Section 7-6-1w5, is drilling around 3,410 feet.

Red Coulee Test

On the Montana end of the international Red Coulee structure, Alberta Drillers' No. 1 Farbo, SE, Section 3-37-4w, is unofficially reported standing cemented on top of the sands at around 2,530 feet, but will shortly be drilled in.

East Central Alberta

In the Ribstone Field, East Central Alberta, Commonwealth-Algonquin's No. 2, LSD 5, Section 16-45-1w4, is drilling below 2,060 feet and is expected to get the lime contact around 2,125 feet. If production is not secured at the contact the test may be continued into the lime.

British Columbia Tests

In the Cariboo district, British Columbia, the Patrick Syndicate's No. 1 wildcat test near the Australian Ranch is reported drilling below 1,400 feet with further small shows of oil and some gas.

In the Kelowna district, Okanagan Oil & Gas Co.'s No. 1, Section 2-26-Osoyoos, is reported preparing to resume after setting casing at 1,705 feet. The test has been held up for some time by casing troubles.

Manitoba Test

In the Manitou district, southwestern Manitoba, Commonwealth Petroleums' No. 2, LSD 2, Section 26-2-9wPM, is reported standing at 800 feet. The contractors have finished the footage covered by their original contract, and new contract is being made for further depth. Drilling will likely resume early in September.

Ontario Drilling

In Mosa Township, Middlesex County, Ontario, Southern Ontario Gas Co.'s No. 9, SW, Lot 13, Concession 3, has finished a dry hole at 2,000 feet and is being plugged. A small show of gas met at 1,515 feet, about 8,000 feet a day, and a larger show, not commercial, at 1,865 feet.

Further east, in Ekfrid Township, Union Natural Gas Co.'s No. 1, Lot 7, Concession 5 south, is reported drilling close to 700 feet.

In Kent County, Frank H. Stover & Son's wildcat deep test in Harwich Township, just west of McKay's Corners finished a dry hole at 3,400 feet, after drilling 383 feet into the Trenton limestone. At this depth it was below the usual productive horizon in the Trenton. This was the first Trenton test drilled in this part of Kent County, though Trenton drilling has been done further south in Harwich Township, at Rondeau Provincial Park, without success. Deep drilling in Kent has been largely the outcome of the Trenton tests put down by the Union Natural Gas Co. in Dover West Township in 1917. Union's No. 1 in that area got a big gas production, with some oil, and some 20 or more tests were subsequently drilled by the Union and other companies, most of them being dry holes. The Union company got several good gassers. Petrol Oil & Gas Co. got production in two wells, and Ajax Oil & Gas Co. drilled one good gasser. The Dover Field was, however, spotted and uncertain, production being apparently on a very narrow minor fold in the bottom of a large syncline.

Isolated Trenton tests have been drilled in the Tilbury and Romney areas, and in the old Bothwell shallow oil field. One deep test in Romney Township got a small show of oil at the bottom of the Trenton but failed to develop commercial production. Isolated deep tests have been drilled in other counties of southwestern Ontario, but so far the Dover area has yielded the only large wells, and these were few in comparison with the number of tests.

Other Kent Tests

In Raleigh Township, Kent County, Union Natural Gas Co. is doing no further work in the new area opened by Olga Oil & Gas Co.'s No. 1. The Olga company has located No. 2 test in the S half, Lot 20, Concession 8, Raleigh, about 750 feet north of No. 1. The latter was drilled to 1,865 feet and got a show of gas between 1,507 feet and 1,629 feet which a shot increased from 300,000 feet to 582,000 feet a day. Frank H. Stover & Son will handle the drilling of Olga's No. 2.

Southern Ontario Gas Co. is rigging up in Lake Erie opposite the G. H. Dawson lease, Lot 187, Talbot Road, Romney Township, where a pier was built last fall. The company did its first lake drilling about 1913-14, putting down seven wells in the bed of the lake and one on the beach close to the water line. All proved fairly good gas wells, and two are still producing. The new test is some distance west of the older wells, most of which were in a group close to Port Alma.

St. Lawrence Valley

In the St. Lawrence Valley, Quebec Province, a number of large companies holding acreage are reported to have pooled their interests for the purpose of systematic testing of the area as well as marketing of potential production. It is unofficially reported that Montreal Light, Heat & Power Co., Southern Canada Power Co., Montreal Coke & Manufacturing Co., Shawinigan Co. and McColl-Frontenac Oil Co. are giving the development some backing. These companies are stated to be sponsoring development work to be carried on by the South Shore Lands, Ltd.

The only actual work being done is near St. Denis, a test by Hope Engineering Co., in which the Shawinigan company is reported to be interested. The main object of the Montreal interests is to protect themselves in case any important natural gas or oil field is opened. Discoveries in the drilling some years ago were limited to small flows of natural gas.

The South Shore Oil Lands, Ltd., is reported to hold 250 square miles of acreage. Holdings outside the Montreal group include 150 square miles controlled by Alberta Gas & Fuel Co., a Henry L. Doherty subsidiary; some 700,000 acres in the St. Hyacinthe district held by Louis Brochu of Montreal; and a block north of St. Hyacinthe held by St. Lawrence Gas & Oil Syndicate of Montreal. Provincial Gas & Oil Co. of Montreal also holds acreage and is reported planning to start drilling shortly.

New Tests in Ontario

In connection with the Union Natural

AUTO TRUCK USED FOR DRILLING

Drilling a water well at the Rusk Refining Co.'s plant at Overton, in East Texas, with a portable water well machine, driven by a Chevrolet truck. Notice chain from drive wheel on truck axle to sprocket on drilling machine. The well was drilled to around 900 feet with this machine. Such portable machines are gaining favor in East Texas, where fresh water has been worth more than 40-gravity crude oil.

Gas Co. test in Ekfrid, it is reported that other interests are planning exhaustive tests of acreage in Middlesex County near Strathroy. Operations are planned to extend from a point south of Glencoe toward Kateville, in Metcalfe Township, where at least one test was drilled years ago. A series of 42 preliminary structure tests, to be followed by 10 commercial tests, has been projected.

In Lambton County, Frank Marchant of Petrolia is reported rigging up for a test on the Mrs. Mary Wynne farm, Concession 2 south, about a mile north of Watford, in Warwick Township. A shallow test will be drilled in the hope of securing oil or gas production around 515 feet, in approximately the same horizon as the shallow crude production from the Petrolia and Oil Springs Pools. The area to be tested lies some distance east of the Petrolia Field.

SOUTHWEST TEXAS FIELDS

(Continued from Page 44)

the Aransas Oil Corp.'s No. 1 Welder, the discovery well of that territory at 3,634 feet. Welder Oil Corp. drilled No. 1 Welder 1,500 feet from the discovery well and got a dry hole. The No. 2 is shut down while lease matters are being adjusted.

With the completion of operations in the Cartwright Field in southeastern Live Oak County that territory is deserted at this time but north of it and nearly on a line between it and the Pettus Field Hughes and others are starting the No. 1 Martin in the John Lyford Survey about 1,000 feet south of the Simms Oil Co.'s No. 1 Holzmark, drilled a year ago, and the discovery gas well at 3,552 feet. Simms later completed the No. 2 Holzmark and there has since been no additional drilling. It is about 10 miles south of the Pettus Townsite and about 15 miles north of the Cartwright gas field.

Laredo District

Development in the Laredo district is limited to the Duval Oil Corp.'s drilling in the extension to the Schoolfield-O'Byrne Pool to develop production for the Crown Central Petroleum Co. Its No. 3 Bishop Duval Land Co. is down to the sand at 2,312 feet with casing set and is drilling in. This is the company's third test, both of the others being producers, and in addition the Magnolia and The Texas Company have some production in the field.

EASTERN FIELDS

(Continued from Page 52)

testing the sand for oil which is rising in the casing. In Clay district, the same company is down to 2,900 feet in drilling deeper its No. 2190 on the A. and M. E. Jolliffe farm, and has a rig standing to drill deeper its No. 3300 on the W. P. Hubbard farm. In Church district, J. L. Reed and others have reached 2,815 feet on the W. J. Troy farm, and the Pittsburgh & West Virginia Natural Gas Co. has started drilling its No. 5401 on the Henry Himelrick farm and at present is at 650 feet.

In Boone County, the Turtle Lick Gas Co. has started a test on the J. S. Hill farm in Scott district and has passed the 500-foot level. The Owens Bottle Co. has moved in the tools to start two wells in the same district, No. 2 on the S. M. Wheeler farm, and No. 21 on the Cassingham and others' tract. In Peytonia district, the same company has shut down at 1,813 feet in No. 9 on the Safe Deposit & Trust Co. lease. In Washington district, the Owens Bottle Co. has reached 1,010 feet in No. 6 on the Powell heirs' tract. Pure Oil Co. is down to 2,640 feet in its No. 53 on the Federal Coal Co. lease, Sherman district, and is spudding in No. 54 on the same lease. Godfrey L. Cabot is drilling at 2,734 feet in No. 47 on the Federal Coal Co. tract, and at 2,450 feet on the No. 5 Mary Dickinson, and shut down at 2,657 feet on the Central Trust Co. lease which is a test. The same operators has the material on the ground for a second well on the J. Q. Dickinson farm, also Sherman district. There are four additional rigs standing in this section, all close by and owned by the operators mentioned.

In the deep test of the United Fuel Gas Co. on the J. W. Hinzman farm in Curtis district, Roane County, which has reached the great depth for an eastern well of 7,137 feet, a little salt water was found at 7,135 feet.

SOUTHWEST PENNSYLVANIA

There were two reports of wells in Southwest Pennsylvania. The most interesting is the test of Charles Heck and others on the Harbison heirs' farm in Buffalo Township, Butler County, close to the Allegheny County line. This well is about 1,500 feet southwest of the No. 1 Johnston Elsenrath which came in at about 75 bbls. a day and is still a good producer. The test on the Harbison heirs' farm proved disappointing and is regarded as a dry hole at a depth of 2,172 feet, the Fifth sand.

In the Robinson Township Pool in Allegheny County, the Lorish Oil Co. drilled a test on the Jacob Minich farm to a depth of 2,200 feet and in the 100-foot sand. It is rated as an 8-bbl. producer initially.

KANSAS FIELDS

(Continued from Page 39)

southern part of Barton County, has resumed drilling operations at 1,732 feet, the well to be drilled to the Silicious lime if necessary. It has been shut down for about a year. The operators have 360 acres surrounding the well, which is located west of the Schurr Pool, near Raymond, in Rice County.

The Schurr Pool

Phillips Petroleum Co. announced that on August 22 it would start producing its wells in the Schurr Pool. Objections are being made by several other operators with production in the field, where 11 wells have been completed. The decision of the Phillips Petroleum Co. to open its wells prompted Slick, Pryor & Lockhart to start drilling No. 3 Schurr, NW cor. NE SW Section 21-20-10w. It is the south location to the Producers & Refiners Corp.'s No. 2 Thompson, and it has remained undrilled because of the fact the production in the pool was shut in.

The production in Schurr Pool is owned by the following companies: Phillips Petroleum Co. has two producing wells; Slick, Pryor & Lockhart, two wells; Allison-Fitzwilliam Petroleum Corp., one well; Vickers Petroleum Co., three wells; The Texas Company, one well; Producers & Refiners Corp., two wells. It is believed the production from the Phillips Petroleum Co.'s wells will be purchased by the Stanolind Crude Oil Purchasing Co. through the Prairie Pipe Line Co.'s line.

On August 25 a meeting of operators with production in the Schurr Pool was held in Wichita, and it was decided the pool should not be opened at this time. The producers present agreed that not even the dollar a barrel offered by the Phillips Petroleum Co. was attractive enough to induce them to open the field, closed about eight months ago because of the lack of a market outlet.

The operators agreed that since there is no danger of drainage they feel that oil stored in the ground is a good investment. Many expressed the opinion that the oil may bring from $1.25 to $1.50 within a few months, and they would then consider opening the production in the field.

The decision of the producers to keep the wells shut in came about the same time the Public Service Commission was considering allowing the operators to market around 2,500 bbls. of the production daily to the Phillips Petroleum Co. or any other purchaser willing to pay a dollar a barrel or more for it.

Butler County

Flint Hill Oil & Gas Co. has made location for its No. 1 Martin "B," NE cor. SW, Section 27-28s-4e.

Cowley County

Dunlop and others' No. 1 Smith, NE cor. NW SW, Section 7-33s-5e, made 150,000 feet of gas at 620 feet, after plugging back from 710 feet.

Chase County

Kline and others' No. 1 Koegeoboehn, C NE NW, Section 28-19s-6e, is dry and abandoned at 567 feet.

Finney County

National Refining Co.'s No. 1 Watkins, C SW, Section 13-23s-30w, is a cellar.

Morris County

Loomis and others' No. 3 Munsell, SE cor. NW SE, Section 15-16s-7e, made 100,000 feet of gas in sand 412-13 feet, total depth.

McPherson County

Lario and Shell Petroleum Corp.'s No. 1 Sellers, SW cor. NE, Section 31-19s-1w, is an old well rigging to deepen at 2,942 feet. Reserve Oil Co. and Shell Petroleum Corp.'s No. 2 Ritz, SW cor. SW, Section 31-19s-1w, is a cellar. Lario and Shell Petroleum Corp.'s No. 3 Suffield, NE cor. SE, Section 25-19s-2w, made 1,192 bbls. in lime 3,411-23 feet total depth. Ritz Oil & Gas Co. and Shell Petroleum's No. 1 Neufeldt, SW cor. NW, Section 15-21s-3w, made 112 bbls. in sand 3,080-05 feet, total depth 3,100 feet.

Reno County

Palmer, Phillips Petroleum Co. and others' No. 1 Goering, NW cor. SE, Section 1-23s-4w, is an old well rigging up to deepen at 3,350 feet.

Rice County

Allison and Fitzwilliams' No. 1 Blake, NE cor. NW, Section 9-18s-10w, is dry and abandoned at 3,319 feet.

Stevens County

McKnab and others' No. 1 Hallock, C SW, Section 36-33s-39w, is a location.

ROCKY MOUNTAIN AREA

(Continued from Page 46)

ing Co., Ltd.'s No. 1 McMillan, SW cor., Section 24-5n-16, Mesa Leon district, is drilling at 1,980 feet in red sand and rock. The 12½-inch is at 1,870 feet.

Valencia County

The Acme Development Co.'s No. 1 Santa Fe Railroad, SW cor. NW, Section 27-7s-4w, South Suwanee district, was dry and abandoned at a total depth of 5,065 feet. At 4,978 feet it was reported drilling in granite. This well was started early in 1927. It is supposed to have topped the Pennsylvanian formation at 1,597 feet. Several water horizons were penetrated below that depth, but no important oil shows were reported.

Thomas B. Harlan and others' No. 4 Harlan Ranch was dry and abandoned at 3,820 feet in gray shale. Same firm's No. 5 Harlan Ranch, 2,640 feet from the west line and 1,000 feet from the south line, Section 5-6n-2e, spudded August 2 and is drilling at 2,878 feet in black shale. The Guess Drilling Co. has the contract.

San Juan County

The Continental Oil Co.'s No. 24, SW NW SW, Section 1-29-19, Rattlesnake Dome, is preparing to resume after cementing the 9⅝-inch at 4,745 feet with 1,000 sacks. The Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor., Section 20-28-10, Kutz Canon, is drilling at 3,585 feet and is believed to be near the top of the Mesa Verde. R. C. Oswell's No. 2, NW, Section 34-20-11w, Aztec district, is drilling at 590 feet. The Ortega interests' No. 2 Ute, NW NW, Section 24-31-16, Westwater district, is fishing for bit at 2,100 feet.

WYOMING

Natrona County

The Midwest Refining Co.'s No. 11 Middy, C NE NE, Section 23-35-79, Midway Dome, which gave evidence of being a good producer in the Muddy sand at 5,967-83 feet after plugging back from a total depth of 6,685 feet, has been turned back to the Olson Drilling Co. to complete with rotary tools. The hole continued to bridge above the sand and after several weeks trying to clean out with cable tools, it was decided to again go back to the rotary. It is cleaning out at 5,940 feet. The Lakota, which showed water, again will be cemented off before making a test.

The Summitt Oil Co.'s No. 1 Trevett, NW cor., Section 21-33-80, North Platte, has resumed and set the 8¼-inch at 1,300 feet.

Converse County

The Continental Oil Co.'s No. 50 Whiteside, NW SW SW, Section 9-33-76, which is being deepened from the Frontier to the Lakota, is drilling at 4,391 feet with cable tools. The 6¼-inch was cemented on top of the Lakota at 4,370 feet and the well looks as if it will be a good producer. It is the second well drilled to that horizon.

Niobrara County

The Indian Petroleum Co.'s No. 1, NE NW NE, Section 7-35-65, Lance Creek, which is being deepened to test the Sundance, is fishing at 4,115 feet for tools and showing a little gas. It is close to the top of the objective.

The Interstate Oil & Refining Co.'s No. 1, Section 2-39-61, West Mule Creek, a test to the Minnelusa, is drilling at 350 feet after shutting off production in the Dakota to go to the lower horizon.

Washakie County

The Ohio Oil Co.'s No. 1 Strothers, SW SE NW, Section 19-45-92, Neiber Dome, is coring at 7,255 feet in the top of the Frontier with a little gas showing and the quantity increasing with depth. The top of the sand was dry.

Big Horn County

The Utah Southern Oil Co.'s No. 3 Government, NE cor. SW, Section 29-56-97, Garland Dome, is bottomed at 4,324 feet in the Madison lime and preparing to test. It topped the pay at 3,924 feet and stopped for a test at 4,100 feet where it made 500 bbls. of oil and 25,000,000 feet of gas in 24 hours. It is a mile to the northwest of the Ohio Oil Co.'s No. 1 Easton, the discovery well in the Madison lime, which is shut in but rated at better than 5,000 bbls. a day.

Park County

The Midwest Refining Co.'s No. 24 Rosenberg, NE SE NE, Section 26-58-98, Frannie Dome, is drilling at 1,969 feet in black shale.

The Department of the Interior has notified the U. S. Geological Survey at Casper that the minimum price of crude from Federal land in Oregon Basin will remain at 60 cents per barrel for the next three months dating from August 19. The Texas Company recently shut down its refinery at Cody partly on the ground that the price of Oregon Basin crude was too much out of line with other crudes to make operations profitable in a competitive market.

Fremont County

The Kinney-Coastal Oil Co.'s No. 1 Chatteron-Weeks, C SW NE, Section 22-3n-1w, Pilot Butte, is drilling at 2,425 feet with the Muddy at 3,600 feet as the first objective. The Ward Oil & Gas Co.'s No. 1, NE cor., Section 28-34-90, Dutton Basin, is standing with the 8¼-inch cemented for the fourth time at 2,030 feet. It is on top of the second Wall Creek which is showing a little gas and oil. The first sand carried water. The Producers & Refiners Corp.'s No. 2, NW SE NW, Section 33-34-92, Muskrat Dome, is bottomed at 4,810 feet and redrilling. It cored to 4,193 feet and is reaming at 4,150 feet.

Carbon County

The Midwest Refining Co.'s No. 27 Union Pacific, NW SE SE, Section 11-20-81, Elk Mountain, is drilling at 3,590 feet in gray shale. It is about at the depth where the Dakota is expected.

Uinta County

The Park City Oil & Gas Syndicate's No. 1 Christensen, NE cor., Section 6-15-113, near Lyman, is preparing to resume at a total depth of 2,715 feet. It is moving in 3,000 feet of 4½-inch. Several gas pockets have been encountered below the 6¼-inch.

Weston County

The Yellowstone Petroleum Co.'s No. 1, NE cor. NW, Section 23-46-64, in the west extension of the Osage Pool, made 200 bbls. naturally after a shot. Before being shot it flowed 125 bbls. daily from sand at 1,830-68 feet.

The Chadron-Osage Oil Co.'s No. 14, SE cor. SW, Section 14-46-64, is rigging up, and Tom Don's No. 3, NW SW SE, Section 23-46-64, is drilling at 200 feet.

The Riggs Oil Co.'s No. 1, SE cor.

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Hearing on Texas Proration Rules

E. V. Foran Favors 250,000-Bbl. Allowable. B. C. Belt Advocates Well Basis. C. V. Millikan Supports Acreage Plan

AUSTIN, Tex., Aug. 29.—The hearing before the State Railroad Commission on plans for putting the new proration law into effect in East Texas developed into a battle of engineering opinion.

Chairman C. V. Terrell of the Railroad Commission announced when he convened the meeting that only testimony relevant to evidences of physical waste would be permitted. He warned witnesses that "in no uncertain terms the law forbids this commission to take into consideration 'economic waste' in determining what shall constitute physical waste and commission does not 'have the power, by order or otherwise, directly or indirectly, to limit production of oil to equal the existing market demand'."

"That power is expressly withheld from the commission," Chairman Terrell said, "and the commission is further denied the power to make any rule or order to limit or curtail storage of oil, except to prevent actual physical waste."

He said there is but one question before the commission for discussion and that is: "Does physical waste of oil or gas, actual or imminent, exist in what is commonly known as the East Texas Field?"

The chairman further warned the participants that "discussions concerning political matters, personalities, or the merits of martial law," should not be engaged in "nor that economic waste, market demand or price of crude oil or gas should be considered."

Foran on Stand

E. V. Foran, technical adviser of the central proration committee, was the first witness. His direct testimony was given through questioning by Marion S. Church of Dallas, while David Proctor of the Gulf Production Co.; V. M. Simon, Fort Worth attorney representing Joe Danciger of Amarillo who has obtained a state injunction restraining enforcement of the commission's orders; Jim Pollard of Pasadena, Calif., an independent, operating in the East Texas Field, and Paul McDermott, attorney at Fort Worth for the Sinclair interests, sought through cross-questioning to weaken Mr. Foran's testimony concerning the danger of actual physical waste in the huge East Texas Field through water intrusion. Dewey Lawrence, attorney for the steering committee of the East Texas independent operators and landowners, briefly questioned Mr. Foran.

Water has appeared in several wells in the Kilgore area, Mr. Foran said, and at the request of Mr. Proctor, recited a long list of instances of water intrusion in the Kilgore, South Gladewater and South Joiner areas.

Mr. Foran said sparsely drilled areas within a pool would tend to cause abnormal reservoir pressure, but would not agree that the only solution would be additional wells.

Mr. Pollard sought to show that encroachment of water is not necessarily dependent upon withdrawal of oil but is largely affected by the mechanics of a well. Mr. Foran said mechanics of a well might affect that rate of water intrusion, while not agreeing entirely with Mr. Pollard.

Water Situation

In a discourse on the geologic formations under the field, Mr. Foran said the Woodbine sand from which the pay in East Texas is obtained extends from Fort Worth and Dallas and that it is a continuous formation of porous substance, susceptible to fluids, which has caused it to have water as well as oil, while differences in elevation causes subsurface pressure to be greater in some parts than in others. On the eastern extremity in the East Texas Field, the formation is bounded by impervious formations which tend to segregate the water unless it is permitted to enter the oil-bearing sands through openings.

Pressure in the East Texas Field is slightly in excess of 1,600 pounds per inch, which is comparable to the pressure of a column of water 3,700 feet high, which pressure can be changed when pressures in other parts of the sand are varied with withdrawals, although the capacity to shift pressure is limited.

What is known as the Eagle Ford shale, which is impervious to liquids, bounds part of the field. A decline in reservoir pressure follows completion of a discovery well in any pool. The reservoir pressure in the East Texas Field at the time of completion of the three discovery wells late in 1930 was 1,600 pounds. In March, 1931, water was discovered and the formation indicated a water hazard. In April water made its appearance and defined more closely the water hazard. Since then water has increased and now it appears in many wells in the western part of the field. Reservoir pressure energy, considered necessary in recovery of oil and prevention of waste, has declined.

In retaining subsurface pressure the three factors of rate of water advance, gas displacement and the resultant drop in reservoir pressure all are to be considered. Lathrop has the highest pressure, Kilgore next high, with the Joiner Field the lowest. Between 30,000 and 40,000 acres are underlaid with water, Mr. Foran testified.

Answering questions by David Proctor, Mr. Foran testified actual tests showed subsurface pressure to be more than 1,600 pounds and less than 1,800 pounds. The gas in the field, he said, is "in solution," which is mixed with the oil to such an extent that it occupies little extra space.

Record of Wells

On March 15, Mr. Foran said, there were 64 or 65 completed wells, of which he made a detailed study, which revealed that 60 were flowing, indicating the reservoir pressure had not appreciably declined.

A water hazard was present in three wells on the west side at that time, he said, although no wells in the actual field were producing water. By July 15, however, water appearances in the Kilgore area indicated presence of water in the middle of the field, demonstrating mobility of water. Reservoir pressure also declined as indicated by a loss of energy. A study of variations in production indicated pressure would decline if the pool was subjected to abnormal withdrawal of oil and gas, unless the pressure is returned. By August 15 withdrawals were more erratic and disproportionate, which resulted in a disproportionate increase of water, and in areas with no water a more marked decline in reservoir pressure.

Appearance of bottom water in some wells indicates advances in an undesirable manner, constituting waste, Mr. Foran testified. If water advances in an orderly manner, it must be at a slow rate, for it will not flood sands if the sands are not loose. Actual waste occurs when oil is removed at a rate faster than water can orderly enter the sands and replace the reservoir pressures. The time factor and daily rate of withdrawal must be considered if water is to be used to maintain the reservoir pressure, Mr. Foran said. The whole pool must be considered if waste through this source is to be prevented, he said.

Reservoir Pressure

In the Joiner Pool there are tight sands and wells stop flowing prematurely, but if reservoir pressure had been safeguarded this would not have occurred, Mr. Foran said.

Had reservoir pressure in the Lathrop area been properly regulated, there would be more wells of the Joiner area flowing today, Mr. Foran said. The reservoir pressure, he said, had declined 9 per cent over a period of four or five months, which, "in my opinion is an abnormal rate, and therefore the rate of withdrawals is abnormal."

Production of from 325,000 to 335,000 bbls. per day from the entire East Texas Field is a higher rate of taking than is to the best interest of ultimate recovery, he said.

The 9 per cent decline in reservoir pressure is not orderly, Mr. Foran testified, because pressure would remain more nearly constant if water replacement is equal to oil withdrawal, which theoretically may enable all oil to be withdrawn from a field without intrusion of water.

A slow withdrawal will increase ultimate recovery from 40 to 100 per cent over the amount that could be produced through disorderly and indiscriminate production, Mr. Foran advised the commission. Premature intrusion of water through disorderly production has resulted in underground waste, he said. Methods used in the field have tended to reduce ultimate recovery in the field.

Greater Recovery

Mr. Foran testified uniform advancement of the water table results in a greater ultimate recovery while disorderly and unequal advancement of the water table results in loss of oil. Uniform advancement also results in maintaining a uniform rate of decline in the reservoir pressure. Sands of tight or slow permeability require slower withdrawals than sands of loose or high permeability.

From a physical standpoint, the three areas are one common producing unit, Mr. Foran said, which shows an intercommunication between the entire pool, and unequal withdrawals in one part would affect the other parts. Uniform spacing of wells is better than concentrated drilling in local areas, Mr. Foran said. The gas pressure per barrel of oil in East Texas is less than in other fields, which requires greater care in its preservation.

From no pool in the State has all of the oil been recovered, although in some all of the gas has been, he said, and once oil strata is saturated with water, only under extreme conditions can oil again displace the water, indicating that "drowning" of an oil pool by water causes waste. Rapid withdrawals of oil cause more rapid intrusion of water, thus lessening the ultimate oil recovery.

Mr. Foran reiterated his statement that once sands are flooded with water they cannot be successfully "worked commercially" again. It is impossible for a well in sand to be flooded and again produce oil as in East Texas but it is possible to recover a well that has gone entirely to water to be recovered in "cavernous lime" formations as in the Panhandle.

Mr. Foran said water would flood the East Texas Field "long before you have recovered all the recoverable oil," when Mr. Simon asked how long it would take for water to flood the field under present conditions. As a group, all wells were injured by the production variously estimated from 800,000 to 1,400,000 bbls. daily production prior to martial law.

Recommends 250,000 Bbls.

He repeated to Mr. Simon his recommendation of a daily allowable production of 250,000 bbls., with the allowable to be revised with later evidence.

Under present conditions it would be better for the allowable production to be divided among acres rather than wells, although the number of wells should be considered. Consideration should be given to the number of wells on each tract. If given sufficient time, Mr. Foran predicted, the reservoir pressure can be restored to its original state through careful, orderly production.

Proration does not stop the laws of physics, but utilizes them to best ability, testified Mr. Foran. When pressed for answers by Mr. Simons comparing production of the East Texas Field with other oils fields, Mr. Foran replied:

"If a field indicated that it could flow 100 per cent open without waste it shouldn't be prorated, but I do not know of any that could, especially in Texas. There might be one field in Mexico."

Production from 300,000 to 400,000 bbls. caused a reservoir pressure decline at a rate indicative that withdrawals were too fast, Mr. Foran said and added that "if it produces waste at 300,000 bbls. it will certainly produce waste at 1,000,000 bbls. daily production."

There is no water drive under the eastern portion of the field, Mr. Foran said, and it would be "better if there was water on the eastern part, for then there would be a water drive on both sides." Under strict proration, water drive can be profitably used to lift oil, he explained.

The complete shutdown does not reduce the ultimate recovery, but increases the reservoir pressure and thus increases the ultimate recovery.

"Violator" Defined

When asked by Mr. Simon for a definition of a "violator" referring to proration orders, Mr. Foran replied:

"One who damages the field."

Wells running 50 bbls. a day will produce more than if running 10,000 bbls. wide open, increasing the ultimate recovery, Mr. Foran said in advocating small production for each well in the

EAST TEXAS TANK CAR LOADING RACKS

Scene at Arp, in East Texas, showing long string of tank cars standing on one of the five sidings north of town. This is one of the main gathering points for tank cars being used to ship out crude oil from the East Texas district.

East Texas Field. Because of subsurface conditions it is advisable, he said, to prevent large flows from East Texas wells. During the large production period after August "there is every reason to believe that additional water encroachment followed wide open flowing," Mr. Foran said.

"Reservoir pressure can forever be maintained if you take out oil and gas at the same rate as some external force. Water in this instance can displace it," Mr. Foran declared in laying down the theory on which he advocates slow withdrawal of oil.

Interpreting the definition of waste in the new conservation statute, Mr. Foran told Mr. Simon he believed all wells could be considered in regarding waste through water intrusion. He would not agree that each well must be considered individually in determining waste.

Bradford Field Cited

Paul McDermott, attorney at Fort Worth for the Sinclair interests, asked about the Bradford Field in Pennsylvania. After it had been abandoned, water was injected and much additional oil produced. Mr. Foran testified that the water injection was under strictest proration and in supervision. The size of the field was about the same as the East Texas Field. Originally it had no water pressure.

Ben C. Belt, chief geologist of the Gulf Production Co., read into the official record a long list of facts pertaining to 33 wells of that company in the eastern portion of the field, and, answering questions propounded by David Proctor, counsel for the Gulf, said at the conclusion of each well description, that it had not, is not and will not cause waste and there is no danger of water intrusion.

Mr. Belt's testimony was to the effect that the eastern portion of the East Texas Field can produce heavily without physical waste if the oil-gas ratio is observed, while E. V. Foran, technical adviser for the defunct central proration committee, for rebuttal testimony, declared it cannot and said before the military shutdown, great waste actually existed.

In addition to the testimony adduced by the Gulf representatives, the Sinclair interests, represented by Paul McDermott, persistently sought to discredit the testimony of Mr. Foran concerning conditions of waste by exhibiting that he had not had sufficient facts before him to make recommendations for the entire field. The same was sought by V. M. Simon, representing Joe Danciger, through cross-questioning.

A series of witnesses intended to show specific instances of waste were presented by Sam McCorkle of Mexia and Dewey Lawrence of Tyler on behalf of the East Texas steering committee. J. Harry Reynolds of the Cranfill-Reynolds interest, said the Cranfill-Reynolds Blackman lease was permitted to run wide open for over a month, producing between 4,000 and 5,000 bbls. daily and on May 3 showed 1 per cent of water, but when shut in on May 5 to only a few hundred barrels, the water showing disappeared.

He added that wells in East Texas separated by from 400 to 600 feet would be to the better advantage of conservation and that oil should be taken out at a rate equal to water displacement.

The allowable of the field should be determined on a well and acreage basis, and not upon a potential basis, he said, in declaring that a well basis offered too much opportunity for operators to "cheat." There is not enough known about the field for the commission to set a flat oil and gas ratio, at this time, although such a restriction would be advantageous and wise, Mr. Reynolds said.

C. P. Burton of the Burton Drilling Co. told Commissioner Neff the distance of wells depends upon the porosity of the sands and that wells in East Texas could be closer than in other fields because of the formation of the sands there wells do not draw oil from a very great distance.

W. B. Hamilton's Opinion

W. B. Hamilton of Wichita Falls told Mr. Neff there was tremendous waste of gas in the field before the military shutdown. The real value of the gas, however, he said, is in its use to produce the maximum number of barrels of oil in addition to the casinghead gasoline that can be produced from it. It is the richest gas in the world in gasoline content, he added in response to Mr. Neff's questions.

Mr. Hamilton testified in response to questions by Mr. McCorkle that a Sinclair offset well in the Joiner area to a 54-acre lease he owned had been allowed to produce wide open after an injunction had been obtained, and the consequence was a dropping from 300 to 60 pounds in the tubing pressure at the top of his well. After the shutdown stopped the Sinclair well, the tubing pressure in his well increased to 290 pounds, he said.

He declared, "I can't conceive a greater waste than by blowing rich gas into the air that will yield 4 to 6 gallons of gasoline per 1,000 feet."

In advocating ratable takings, he told former Governor Moody he did not believe the Supreme Court was fully aware of the present knowledge of petroleum engineers when it held oil is a "wild horse and belongs to anybody who can capture it." Wells flowing wide open, he said, produce more gas per barrel of oil than those pinched in, when Mr. Moody sought to show a smaller ratio of gas was produced when a certain well was running at capacity. He told Chairman Terrell that wells producing from 200 to 250 bbls. of oil daily yielded the most efficient gas ratio and the greatest ultimate recovery of oil, but added that it would not be advisable to set an allowable for the field based entirely on a well basis, urging a well-acreage combination for the basis.

Unit of Well Proration

Assistant Attorney General Fred Upchurch, who handles oil and gas litigation for the State, entered the hearing with questions directed to Mr. Hamilton to ascertain if he thought the new conservation statute permitted proration of the entire field or only individual wells causing waste.

"The commission cannot prevent waste except by treating the entire pool as a whole," Mr. Hamilton responded. "The commission cannot prevent waste through a well by well proration." He said the same allowable for each well would not be successful, for in some areas where drilling was intensive it would cause low pressure areas at subsurface.

Questioned about the practicability of repressuring the field through artificial means, Mr. Hamilton told Mr. Upchurch that without 100 per cent co-operation a field could not be repressured nor could the back pressure be maintained. Mr. Upchurch pointed out sections of the act which prohibit forced unitization and repressuring.

Mr. Hamilton answered affirmatively to Mr. Upchurch's question that the best the commission could do now would be to fix a top allowable, on a modified unit basis, and have another hearing 60 days from now after a petroleum engineer, employed by the commission, could have made an extensive survey of the field. He said a proper allowable for the field would be 250,000 bbls.

Mr. Reynolds told Commissioner Terrell that it would be a conservation measure for the commission to order tubing of wells to be placed as close to the sand as possible, which would increase the oil-gas ratio, but that it would not be wise for the commission to set a flat oil-gas ratio, but that it would permit some wells to draw water. He thought, through questions by V. M. Simon, representing Joe Danciger, that every well would react differently in the matter of the depth of tubing. He answered affirmatively to a question by R. D. Parker, chief oil and gas supervisor, that it would be better to curtail production to save gas than to attempt to set an oil-gas ratio.

Slow Withdrawal Best

Mr. Burton testified that his well on the Florey lease showed water after offset wells had flowed wide open, but that water disappeared in his and other wells when production was cut back to 200 bbls. daily. The well is in the west edge of the field, and the well was drilled "practically into the water."

"The greatest ultimate recovery from the East Texas Field will be by slow withdrawals, maintaining back pressure," Mr. Burton said.

Mr. Burton cited a specific instance of waste, in that Burton's No. 1 Thompson had a tubing pressure at surface of 325 pounds, but after heavy withdrawals, the well quit flowing 10 days before shut down because pressure in that area had been diminished.

S. A. Guiberson, Jr., member of the steering committee of East Texas, testified he had one well not producing near five offset wells which started producing about two weeks ago. Before the offset wells started producing the pressure in Mr. Guiberson's well was 460 pounds. After the other wells started producing the pressure was reduced to 180 pounds. These offset wells are in a proximity of 1,970 feet.

"I contribute this decline of pressure to the excessive withdrawal of wells around my property," he said. "A congested area of production would reduce pressure and pull gas to the local area. There would be an unequal condition."

R. A. Elliott of Fort Worth and with the F. H. E. Oil Co., questioned by Sam McCorkle, said that of the three wells owned by the F. H. E. company on the Thompson land, two directly offset showed a marked decrease in the pressure. The one well not having an offset well was much stronger in pressure.

Foran Recalled

E. V. Foran was called back to the stand and questioning by Paul McDermott was continued. Gas in East Texas is 60 per cent methane and ethane, Mr. Foran told Mr. McDermott. In comparison to other fields, the gas in East Texas is deficient in gas energy. Gas from the North Texas fields runs as high as 70 per cent methane with other valuable qualities.

Mr. Foran testified about the condition of Sinclair's No. 1 Cole, which he said was improperly completed and made salt water. He defined the well as an example of physical waste. Mr. Foran said if producers would respect the Rail-

There was not time for an advance detail to put up the camp in East Texas so all members of the company had to pitch in and work.

road Commission orders wells would not be filled with water.

Mr. Foran admitted to Mr. McDermott that he did not know the relative total volume of water in the field just before the shutdown.

"The appearance of water is more important in my opinion than the quantity," Mr. Foran countered. Through a long series of questions and a hypothetical condition, Mr. McDermott drew from Mr. Foran that close observations and stringent tests are needed to determine whether a well is wastefully producing. This apparently was what Mr. McDermott had sought to bring before the commissioners. "Treating the pool as a whole," Mr. Foran countered, "it is possible to give an opinion as to waste."

"Strangely enough then," Mr. McDermott asked, "with limited information about some wells and none about hundreds of them, you can give an opinion about the whole field, but not about one well." Mr. Foran explained conditions are different in judging an entire field.

Mandatory Repressuring

Mr. Foran criticized the provision of the new statute forbidding mandatory repressuring of fields.

Upon being questioned by Mr. Neff as to spacing of wells in the East Texas Field, Mr. Foran said "intelligent spacing or spacing program was not and had not been followed in the East Texas fields. If there is wider spacing, there will be less waste. In my opinion, I would recommend that wells be spaced 660 feet between wells and 330 feet from the line."

Potentiality should be considered in proportioning the allowable production among all wells, Mr. Foran told Commissioner Neff. Physical waste will result if only a well or acreage basis is used. Uneven spacing of wells in the East Texas Field would cause unequal reservoir pressure area, he explained.

Mr. Foran replied to Commissioner Terrell that the commission could not set an oil-gas ratio that would prevent waste of gas and oil as applied generally to the field, because the ratio depends upon the individual well.

B. C. Belt Opposes

Testimony of four witnesses, employes of the Gulf Production Co., the Sinclair Oil & Refining Co. and the Danciger Oil & Refining Co., all opposed to governmental regulation, was heard Thursday.

Ben C. Belt, chief geologist of the Gulf; Glenn Harroun, superintendent of production of gas measurements for the Sinclair; L. G. Reinberger, superintendent of gas measurements for Sinclair, and J. S. Hudnall, geologist for Danciger, the four witnesses, recited detailed descriptions of more than 100 producing oil wells in the East Texas Field, some of which were in the water hazard area on the west edge, and in conclusion testified that those wells had not produced or contributed to physical waste in the field.

Estimates of what the daily allowable production of the four-county field should be, made by witnesses Thursday, varied largely from the 250,000-bbl. allowable recommended by E. V. Foran. Mr. Belt recommended an allowable of 300 bbls. per well, which for the present 1,600 wells would be 480,000 bbls. daily, and agreed with Commissioner Neff that the number of wells would soon be 2,000, making the daily production 600,000 bbls. daily. Mr. Harroun testified that every Sinclair well could produce between 3,000 and 4,000 bbls. without causing physical waste.

Mr. Belt made his recommendation as to a total allowable under protest, declaring that he did not want to do so. The Gulf company, he said, will produce from its wells the amount of oil that will yield the most efficient gas ratio. He condemned the potential basis for determining the allowable in advocating the use of the well basis by the commission. This testimony contradicted that of Mr. Foran, who had said the potential basis is the only proper one.

Either a well or acreage basis, Mr. Belt told Commissioner Neff, will encourage drilling, but it will be fairer to the little man than the potential basis. The acreage basis would benefit the big corporations, he avowed.

Mr. Hudnall testified that only 23 wells are producing water and they are all within the well-defined water table area in the western portion of the field.

Would Require 5,000 Wells

Mr. Belt said wells in the Crim area were drilled too deep and thus caused water, else the western portion of the East Texas Field would have been plagued with a water menace.

It will be impossible to keep reservoir or subsurface pressure uniform throughout the field under the present condition, Mr. Belt said, without cutting down production in the dense areas to "a mere pittance of 5 to 10 bbls. or force owners in the sparsely drilled areas to drill up to the same density," to prevent their oil from being drained out by others. Then he pointed out that it would require 5,000 wells in East Texas to get one well to each 20 acres.

Questioned by Fred Upchurch, assistant attorney general, Mr. Belt said Humble's No. 7 Crim, which he had testified showed water, could be plugged back to cut out the water menace. He said he had heard the Humble was already plugging it back.

Data on which the oil-gas ratio was based was obtained by other Gulf employes and "suits the Gulf and is the best we can get," Mr. Belt told G. P. Crutchfield, who represented the Roeser-Pendleton Co. The proposition of gas used in lifting oil will naturally increase as the field grows older, Mr. Belt declared.

A natural water flow can be scientifically harnessed to increase the yield of oil, Mr. Belt said. He admitted to Mr. Crutchfield that possibly there has been waste in certain areas of the East Texas Field.

Water Displacement

Mr. Foran's estimate that there is water displacement of 250,000 bbls. daily is a "guess and if his guess is correct, the water supply is inadequate to properly wash the sands," Mr. Belt declared. While he had not estimated what the East Texas allowable should be, this was taken to mean that he does not concur in Mr. Foran's recommendation of 250,000 bbls. daily oil production. He said he was neither sure "the commission could or could not" set an oil-gas ratio for the entire field.

All Gulf leases will ultimately be all drilled up, Mr. Belt answered Mr. Hardwicke's question as to whether all territory in the field will be closely drilled.

Under present conditions in East Texas of lease and royalty owners, operators and heavy investments it is impossible for a government to experiment with private property when so much money and so many different factions are involved, Mr. Belt argued.

There is no such thing as trapping off oil, Mr. Belt declared he believed. This was in direct contradiction to Mr. Foran.

Answering questions by Dewey Lawrence, Mr. Belt declared water has nothing to do with reservoir pressure, that it is impossible to bring water through uniformly and even if it was, it would not increase the ultimate recovery.

Answering Sam McCorkle, Mr. Belt said while he did not necessarily recommend to the commission the East Texas Field be regulated by an oil-gas ratio, that the Gulf company intended to operate its wells in that fashion. The oil-gas ratio must be determined for each well to reach the highest efficiency, he explained.

The commission faces the initial task of determining whether each well in the four counties is causing or contributing waste, Mr. Upchurch said, and asked if Mr. Belt believed they had. The witness answered that no doubt some had.

For Well Basis

He said an allowable on a well basis is more desirable than a potential basis. Asked by Commissioner Neff what he meant by a well basis, Mr. Belt explained he meant an allowable production for each well, regardless of its potentiality.

"Would not that encourage a large amount of drilling?" Mr. Neff asked.

"Yes sir, it would," Mr. Belt replied, "so would a percentage basis or a unit basis. It would work a hardship on the large tract owners but would be more fair to the small man. An acreage basis would be better for big companies with large tract holdings."

"Any kind of restriction will increase drilling," he continued. "There are 100,000 acres that may be forced to be drilled to prevent the draining other witnesses have been talking about, but which I do not believe is so great."

On the five-acre tract drilling basis, "the little fellow is getting the best of it," Mr. Belt declared, after having explained that the Gulf is not drilling nearer than 330 feet from the property line and 660 feet from another well. That distance should not be increased by a commission order, he told Mr. Neff.

Oil-Gas Ratio

The oil-gas ratio for the East Texas oil field should not be set until after further investigation, he said, and predicted that conditions in the field will soon change. Such a rule would be of no effect if production per well is under 150 bbls.

"If I had to say it, I would just say each well be permitted to produce 300 bbls.," Mr. Belt said, even though the closely drilled area will get more benefit. Generally, he said, the oil-gas ratio would be more efficient on a 300-bbl. basis than by a 150-bbl. allowable.

L. G. Reinberger's View

L. G. Reinberger of Tulsa, superintendent of gas measuresments for Sinclair, called to the stand by Paul McDermott, counsel for the company, testified that in tests of oil-gas ratios on four Sinclair wells near Kilgore the oil-gas ratio decreased rapidly up to 4,000 bbls. daily production, but that below 300 bbls. production the ratio of gas per barrel of oil increased to a maximum of 7,000 feet of gas per 1 bbl. of oil. Above 4,000 bbls., the lowest ratio was obtained, 297 feet of gas to 1 bbl. of oil.

Mr. McCorkle sought to show that at a high rate of oil flow, gas was "in solution" and therefore could not be measured, causing an apparent decline in the oil-gas ratio, but the witness would not agree with him.

Mr. Reinberger said tests on the four wells were made August 18, one day after martial law went into effect.

Glen Harroun on Stand

Glen Harroun, superintendent of production for the Sinclair company, was called by McDermott. Sinclair has 76 wells in East Texas and has the farthest west wells in the southern Joiner area. Only the farthest west well produced water, he said, of 11 wells in the Joiner area. Sinclair's No. 1 Cole, which snuffed out nine lives and burned for 17 days, has been producing during the last 30 days oil with less than 1 per cent water and basic sediment, which can be run directly into the pipe line, he told the commission.

Mr. Harroun testified that none of the wells had caused or contributed to waste and that 4,000 bbls. per well daily production would not cause waste in his opinion.

Artificial gas lift was used on the Holland lease in the Joiner area for four or five days, Mr. Harroun told Mr. McCorkle. Asked why its use was stopped, Mr. Harroun's answer was interrupted by Mr. McDermott, who objected that its use was stopped by federal injunction. The complete shutdown did not increase the bottom pressure in the Sinclair wells, Mr. Harroun told Mr. McCorkle.

J. D. Hudnall's Opinion

Mr. Hudnall, a petroleum geologist doing general work for several companies, including the Danciger company, was called by V. M. Simon, attorney for Joe Danciger. He described nine Danciger wells in the Lathrop and Kilgore areas and declared none encountered water and none caused or contributed to waste. He read a list of 23 wells, which he said were the only ones of the 1,600 or 1,700 wells in the entire East Texas area flowing water.

C. V. Millikan Testifies

Mr. Millikan, production engineer for the East Texas Steering Committee, declared slower rate of withdrawal, even down to 1 bbl. a day, would increase ultimate recovery, and that 225,000 bbls. daily for the entire field would be a reasonable figure.

There is a tendency for water, oil or gas to shift from the high to the low-pressure areas. The Lathrop area has the highest pressure in the field, Kilgore next, while Joiner has the lowest. The low pressure areas were caused by more rapid withdrawals, which comes from disorderly production. Orderly development maintains the pressure and increases the yield. Only 10 or 12 per cent of the original content can be recovered with disorderly development, while the actual recovery can be doubled through orderly production, Mr. Millikan testified.

He told of the Bradford Field in Pennsylvania, artificially flooded with water to lift the oil, in explaining that properly prorated production in East Texas, which has a natural water lift, will increase the ultimate recovery. Identical principles of water lift are employed in both fields, he declared.

Explaining his theory of shifting of pressures through unequal withdrawal, Mr. Millikan told of the Burbank Field in Oklahoma, under control of the United States Government, which was only half developed for a year, while the densely drilled areas withdrew oil rapidly. When the remainder of the field was developed, only a small percentage of the oil underneath could be raised. This, he said, was due entirely to the disorderly production method used.

Decline of reservoir pressure in East Texas by 150 to 200 pounds since its discovery, is due to disorderly production and has caused loss or waste, he said.

"Did physical waste exist in East Texas prior to the shutdown?" Mr. Lawrence asked.

"Yes, sir," answered Mr. Millikan.

"Any procedure tending to maintain a more uniform water table," he explained, "will result in a greater ultimate recovery, in East Texas as in all other fields."

The gas-oil ratio is of secondary importance to the water table in the East Texas Field, he said. It is essential to measure the quantity of gas going into the stock tanks in solution, Mr. Millikan said, to obtain a true gas-oil ratio, and when the rate of flow increases the greater is the chance for discrepancy.

For Acreage Basis

Mr. Millikan recommended distribution of allowable on an acreage basis first, a well basis second and potentiality as a last resort.

Explaining his theory, Mr. Millikan said the East Texas Field is a common reservoir, and therefore, every well that has oil withdrawn from it will affect the entire field; that is, any movement of one well affects every other well in that common reservoir. Mr. Millikan based his opinion that the East Texas Field is a common reservoir on facts concerning the sand, original pressure and "on common sense mostly."

Tabulations introduced by Mr. Millikan and filed as evidence, of bottom hole pressures on 70 or 75 wells distributed indicated the low pressures in certain areas of the field. These observations, according to Mr. Millikan, showed that the lowest pressures were found in the Center-Joiner area, the next lower in the Kilgore area and the highest in the Lathrop area. The result of these pressures is that oil or gas or water will migrate from the highest pressure to the lowest, and that the low pressure areas are caused by the more rapid extraction of contents of the reservoir. "Orderly withdrawals would have prevented this certainty," Mr. Millikan said, "if consideration had been given this particular point of pressure."

Three Methods

Mr. Millikan testified of the three methods on which restriction of fields could be placed, namely, acreage basis, well basis, or potential basis, he recommended the acreage basis.

"Looking at the entire reservoir as a whole," he said, "I would give the well basis no consideration; I might give the potential method consideration, or combine the acreage basis with potential basis, but I prefer and recommend the strict acreage basis." In explaining his objections to the per well basis, he said that "withdrawals in the concentrated areas would be greater than in the less intensely drilled areas resulting in creat-

(Continued on Page 99)

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Uncertainty Retards Market in Chicago

Various Factors Tend to Delay Better Prices. Active Crusade Against Tax Evaders, Otherwise Gasoline Bootleggers

By Robert C. Conine

Chicago Bureau, The Oil and Gas Journal, 6 North Michigan Ave.

CHICAGO, Aug. 31.—With spot market buyers few and far between, a slight easiness crept into the gasoline tank car markets at the close of the month as distributors who had bought material at as low as 3½ cents hurried to obtain the cent to a cent and a half profit before anything should happen to destroy their bonanza. Just how much this "cheap" gasoline volume is exaggerated by duplication in the offerings of the various brokers it is difficult to ascertain, but some light may be thrown on the situation by the fact that offerings from 40 cars of an Oklahoma refiner were tendered by at least half a dozen distributors.

Although 5½ to 6-cent U. S. Motor gasoline is an expectation strong enough in certain important quarters to cause the turning down of flat price proposals of 5¼ cents for even the first half of September, the delay in the expected tank wagon and service station increases and the lack of important developments in the crude oil situation of a definite nature have tended to arrest the upward progress of the gasoline tank car markets in the Chicago district, as well as to induce a somewhat nervous condition in spite of a considerable improvement which has been made in the retail marketing end.

Winding Up the Price War

The price war which affected the postings on the regular grade of gasoline at the service stations in Chicago, Detroit and St. Louis came to a close the first of last week when the Shell Petroleum Corp. terminated its policy of selling its 60-62 gravity, 400 endpoint gasoline at 1 cent above the price of Stanolind Blue. At all of these points the price of the third-grade gasoline returned to its normal position of 2 cents below the price of the regular grade. Saturday, however, the independent service station operators in Detroit, who have been importuning the major company for an increase in the service station postings, decided to take advantage of the cessation of hostilities by the majors and returned to the policy of underselling. The price of Stanolind Blue immediately dropped to 8.1 cents, plus tax, from 9.8 cents, plus tax, and further decreases are indicated.

Further Tank Wagon Advances Needed

As the recent tank wagon and service station price advances were merely a return to conditions before the tiff between Shell and Standard, with the tank car markets continuing to advance slowly during the brief encounter, the convalescing jobbers who have been hardest hit are still a long way from a fair position. The trackage station operators, who have formed the major part of the clientele of jobbers who have depended upon sources of abnormally cheap gasoline which are now out of the picture, have received a serious setback in Chicago. From reliable sources it is reported that a considerable number of the cut-price independents have dropped out of the running, while still more of them will do so as the work of the gasoline tax evasion committee advances.

Milwaukee Legal Fight Looms

Developments in the attempts on the part of major companies in Milwaukee to regain the gallonage they have lost to the trackage stations, which until recently were enjoying a sensational expansion, have led to an investigation into oil company practices in that city by the attorney general's office. The State contends that Sinclair Refining Co., Standard Oil Co. of Indiana, Shell Petroleum Corp., Wadhams Oil Co. and The Texas Company are attempting to freeze out the independents. R. M. Orchard, assistant attorney general, said that the major companies are spreading their control of the Milwaukee gasoline markets by making lease and agency agreements with practically all of the service station operators. According to Mr. Orchard, the major companies have for more than a year ceased to build their own stations. A spokesman for the majors said that it was true that the larger companies have stopped building new stations, and pointed out that this is completely in accord with the view that the industry already has about 75 per cent too many marketing outlets and that it is worse than folly to add to this excess.

Lease and Agency Agreements

"If we see a location we would like to have," a representative of one of the major companies said, "we offer the owner a fair rental and a form of reversal of the usual Q. D. A. agreement. That is, for every gallon of Ethyl Gasoline sold in his station we give him 4 cents; for every gallon of regular gasoline, 3½ cents, and for every gallon of the third-grade gasoline, 2 cents.

"We are aware that 'fair rental' is a term variously interpreted. For instance, we offered a man $50 a month rental on his place but we didn't do business because one of the larger independent companies came along with an offer of $300 a month. However, I doubt if an investigation would show us guilty of extravagant appraisals and we have managed to make a considerable number of lease and agency agreements. In view of this I don't see where the independents in Milwaukee have a basis for complaint. I'm sure the fact that these trackage operators have initiated every price reduction isn't going to conform to their plaint that they are being beaten down by the major interests. The trouble is, as far as the trackage station operator's side of the question goes, that while the majors sometimes follow their price cuts promptly, the majors are exceedingly slow about moving the price back up, and in the meantime the price cutter sacrifices his Q. D. A. and more."

Tank Wagon Advance Not Seen

In regard to the long expected tank wagon and service station price increases throughout the territory, the argument that such an advance is justified under the present improved conditions is met by the argument that the major companies are not likely to hazard all of the efforts they have made to regain gallonage lost to price cutters by making such a move before the crude oil situation is definitely settled and a reliable guide in mapping out marketing schedules. The attitude of some of the producers in the East Texas area in respect to the jurisdiction of the Texas Railroad Commission has stirred up uneasiness in oil trade circles here.

Bids on Post Office Business

Bids to supply the Chicago post office with 300,000 gallons of gasoline in the fourth quarter ranged widely in price but showed a considerable improvement over the 3¼ cents at which Deep Rock Oil Corp. is supplying for the third quarter. Jewett & Sowers Oil Co. got the business on a bid of one-eighth of a cent below the average tank car price as published in a daily publication on date of shipment with the maximum not to exceed 4½ cents, Group 3. On all prices a half cent handling charge is added. Shell, bidding on this business for the first time, tendered a price of 2¼ cents above the low in a daily publication, f.o.b. bidder's bulk plant, with a maximum of 7½ cents. Seneca Petroleum Co.'s maximum was 6½ cents, Group 3. Standard Oil Co. of Indiana entered a bid offering the regular Q.D.A. given to jobbers buying in quantities over 75,000 gallons monthly.

Gasoline Tank Car Markets

The gasoline tank car markets are expected to firm up this week when buyers who have put material contracted early in August in transit have found jobbers willing to fill up their storage at prices ranging from 4½ to 4¾ cents. The original buyer can make a profit of $80 to $120 on each car and every day's delay brings demurrage costs of $5 a day on each car. Some of the larger distributors are cutting down the quantity of this material on the spot market and have made arrangements for holding some of it and await developments. Twenty cars of the "distress" gasoline are sidetracked at Kansas City, and the Chicago buyer said Saturday that he expects to move all but three or four cars to Chicago destinations by tomorrow, Tuesday, at 4¾ cents. Prices on U. S. Motor gasoline for immediate instructions Monday ruled 4⅞ to 5⅛ cents, with offers somewhat freer than last week. The higher tests were firmer and more orders of 68-70, 360 endpoint material were heard, the price ranging from 5½ to 5⅝ cents. The 60-62, 400 endpoint gasoline, which some of the stronger independents are offering at 12 cents including tax at the service stations, is strong at 5⅛ to 5¼ cents. The 64-66, 375 endpoint gasoline is at 5½ to 5¾ cents. There is little movement of the 64-66, 437 endpoint blended gasoline which is quoted as low as 4½ cents. Blending naphtha remained unchanged at 4½ to 4¾ cents.

Gasoline Tax Evasion Committee

Frank V. Martinek of Standard Oil Co. of Indiana, who is chairman of the gasoline tax evasion committee, is proving to be just the kind of a crusader the industry has been needing in its long struggle with the gasoline bootleggers. The faint hope that arose when it was learned that Mr. Martinek, N. H. Steindler and J. D. Barton, of The Texas Company; W. R. Allen and A. H. Sus, of Sinclair Refining Co.; G. C. Morris and A. C. Harvey, of Pure Oil Co., and Paul Hadlick, secretary of the marketing division of the American Petroleum Institute, had formed a committee which was to be the nucleus of a nation-wide campaign against gasoline tax evaders, has reached the proportions of a strong conviction that at least in Chicago district there is going to be a speedy cleaning up of the bootlegging ring or a number of state officials will have to give a close account of themselves.

A statement issued by Mr. Martinek last week follows: At a conference between State's Attorney Swanson, F. V. Martinek, chairman of the gasoline tax evasion committee, and J. P. Rooney, the committee's representative, the state's attorney specially designated Assistant State's Attorneys Harold M. Keele, John Holman, John Hampton and John O'Hora to handle all prosecutions of cases arising from gasoline tax evasion and stated that everything would be done to co-operate with the gasoline tax evasion committee in the gathering and preparation of evidence for prosecution of these cases.

"The committee expressed full confidence in State's Attorney Swanson's desire to co-operate and voiced its intention to co-operate and support the state's attorney in the prosecution of evasion cases to the fullest extent. The committee also urged that all accused of evasion be reindicted, that new indictments be brought in, and that former Oil Inspectors Hugh Norris and William F. Gorman, whose indictments were quashed by Judge Charles Williams, be reindicted."

The conference with the state's attorney followed when Attorney General Carlstrom dodged the issue on money when he was called upon to state definitely his attitude toward the work of the gasoline tax evasion committee, stating that he ". . . talked to Judge Swanson and we have a complete understanding with regard to the prosecution of gasoline tax evasion cases." It is likewise remembered that in the campaign against gasoline bootleggers nearly a year ago Attorney General Carlstrom promised to assist and did so by providing an investigator who stayed on the job six weeks and did nothing. Judge Swanson also asserts that the state department of finance has failed to co-operate with his office in the fight against gasoline tax evaders.

Investigation to Be Thorough

Mr. Martinek, whose experience in investigating work is considerable, reports that a large force of special investigators who have no political alliances to consider are now digging into numerous sources of information for evidence to carry on prosecutions. Already, according to the chairman, some surprising facts touching upon officialdom have been unearthed. Some of the newly revealed evidence is said to throw light upon the inefficient manner in which gasoline tax evasion cases have been prepared and prosecuted.

Stopping Bootlegger Supplies

Several refiners last week stated that they were closely scrutinizing the records of a number of their buyers with a view of cutting them off if any suspicion could be attached to their activities. One refiner said that he was making sure by refusing to sell to the cut-price operators who are apparently losing no money in selling motor fuel at 9 and 10 cents at the service station, allegedly including the 3-cent gasoline tax. A distributor who sold five cars of gasoline a day to a gasoline bootlegger said that the profits of his customer were not great, figuring around $200 a day, instead of $1,200. because the customer paid 7.16 cents a gallon for the gasoline delivered in Chicago and sold it at 7.66 cents, realizing a profit of half a cent a gallon. The trackage station operator then sold at 9 cents, making the profit cut to him 1.3 cents. Naturally, when service station prices mount there is a redistribution of profits. The state finance department asserts that it finds no evidence of the huge losses to the State through this form of tax evasion, asserting that a close check showed the loss to be slightly more than $400,000. However, it is reliably reported that one alleged tax evader alone has $125,000 in a safety deposit box for emergencies, while another has three firms of attorneys drawing up his defense in tax evasion indictments. Another factor which may play an important part in the prosecutions is the interest taken by the Federal Government in the matter of income tax evasions.

Fuel Oils and Gas Oils

Price advances are noted in all of the fuel and gas oils offered in Chicago district. A comparatively large increase in cracking operations, giving an estimated 6.6 per cent increase in the output of cracked gasoline over the preceding week, is reported to have made deep inroads into the supply of materials suitable for cracking stock. The 18-22 fuel oil advanced 2½ cents a barrel to a range of 22½ to 27½ cents a barrel; the 22-26 fuel oil advanced similarly, making the new prices 27½ to 30 cents

(Continued on Page 98)

Eastern Market Strongest in Months

Retail Division Gradually Working Into Better Position as Price Cutting Diminishes. Old Contracts Handicap

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Aug. 31.—East Coast refined products markets have witnessed substantial improvement during the past week and the month closes with the general market position at its strongest point in recent months. The gasoline market in particular has worked into stronger position, and it is expected that higher prices for motor fuel in refinery and retail markets will carry the general price structure to firmer levels.

Arbitrary shutdowns in crude oil output in southwestern fields have exerted a pronounced effect on eastern markets, and has materially stimulated gasoline trading in cargo lots in the open market. Between 12 and 15 cargoes of California gasoline, aggregating in all approximately 1,000,000 bbls., are reported to have been sold during the week for shipment to Atlantic Coast ports at prices ranging from 4¾ to 5 cents per gallon, laid down, and further business of this character is pending. East Texas refiners, who a few months ago were offering gasoline in cargo lots for September shipment to New York at prices substantially under current levels, are now withdrawn from the market, pending further developments. Refiners in this area have been drawing steadily against storage gasoline holdings in recent weeks, and with cheap crude shut off at its source, the outlook indicates a pronounced firming up in the gasoline position.

There is still some outside gasoline coming into East Coast markets on old contracts at prices that militate against any substantial gain in retail selling prices in this territory, but liquidation of these stocks is believed to be a matter of but weeks at the most, and marketers in this territory are of the opinion that the close of September will witness price schedules substantially above current levels, although it is conceded that the growing use of third quality brands by large marketers may tend to further complicate the retail market situation.

Important changes in refinery equipment and quality product are anticipated in eastern refining circles during the coming year. Several of the eastern refineries, notably Tide Water at Bayonne and Sun at Philadelphia, have recently completed large plant improvement programs, and changes in quality standards for motor fuels and lub oils are expected to force other large units with plants in this area to make sizable expenditures in plant modernization in the near future. While it is known that a number of expansion programs of this character are under way, the companies involved uniformly decline to commit themselves on the extent of these alterations and improvements, or the nature of some of the new plant equipment that is to be added.

Refinery Gasoline

The market is still sharply competitive, but the price range has narrowed down to a half cent per gallon in actual posted prices, and shading on spot transactions is reputedly extremely infrequent. A number of large units here have contracted for considerable quantities of California gasoline for delivery over the next two months, and a heavier movement of the Pacific Coast product is expected to largely offset declining shipments of gasoline and crude from the Gulf area to North Atlantic United States ports.

Stocks of gasoline at bulk terminals in the East Coast district as of August 22 totaled 7,626,000 bbls., a sharp drop from the 8,338,000 bbls. similarly held at the close of the previous week and the 8,798,000 bbls. on hand at the same time last year.

There has been a good demand for gasoline in the tank car market during the week, and shipments were heavy. Posted prices for U. S. Motor grades range from 5½ to 6 cents per gallon, Standard Oil Co. of New Jersey having advanced its quotation one-quarter cent from 5¼ cents as of August 26. It is interesting to note that while local sellers continue to quote their product as U. S. Motor grade, practically all of the gasoline being marketed in this territory runs considerably better than Motor grade specifications.

One development which promises to exert a considerable influence upon the price trend in the East, and one, apparently, that has been overlooked by many, is the situation brought about by recent price mark-ups in the Gulf export market. Prices for export gasoline at the Gulf are now considerably over asking prices of Russian and Rumanian refiners, and it is anticipated that open marketing trading in export parcels will consequently suffer in this country. A number of refiners who have been marketing considerable quantities of motor fuel for shipment out of the Gulf into export channels are expected to center their marketing operations at New York and other East Coast terminals in the near future, which should tend to hold refinery prices down somewhat in this territory.

Tank Wagon Gasoline

Strengthening in the position of the refinery gasoline market is being reflected by a lessening of price cutting on the part of independent marketers, and the retail division of the business is gradually working into better position as this price cutting diminishes.

The trend in eastern tank wagon markets during the past fortnight has been decidedly reactionary, with retail markets falling while refinery quotations were on the upward move, but this situation, it is believed, is but temporary, and is an outgrowth of the introduction of several "third grades" of gasoline into local marketing territory. Current holdings of low-priced gasoline in this area are at the vanishing point and the price-cutting operators will be forced to revise their quotations upward as soon as they begin working on replacement stocks acquired at current price levels.

Leading brands of motor fuel can still be bought at many points in the territory at 8 and 9 gallons for $1, tax included, with third grades as low as 11 gallons for a dollar, including tax. It is expected that marketers will make an effort to stabilize retail markets at "official" posted levels, which are considerably above today's actual going prices, before endeavoring to further advance their posted schedules.

Kerosene

Trading in the refinery kerosene market continues confined to small quantities, and the market is unchanged at 4¾ cents per gallon for 41-43 water white in tank car lots. Refiners look for an early improvement in demand, and with crude costs higher are not disposed to shade kerosene quotations to any material extent.

Tank wagon kerosene markets have likewise remained in quiet position during the week under review, no revisions in posted quotations occurring.

Fuel Oil

While the local market remains unchanged during the week at 70 cents per barrel for Grade "C" oil, in bulk, f.o.b. refinery terminals, the undertone appeared to have firmed up somewhat, and refiners were considerably more optimistic with regard to prospects for an early mark-up in quotations. Fuel oil from the Gulf Coast was reported available early last week at a price figuring out about 60 cents per barrel laid down in New York in cargo lots, but it was not believed that more than one cargo was available at that figure, and traders were looking for a further firming-up in the Gulf Coast quotation which would make Gulf Coast oil under 70 cents per barrel, laid down here, unfeasible.

Marine consumption of bunker oil was reported as well maintained during the week, and a fair demand was reported for bunker oil for delivery to shore installations.

Holdings of gas and fuel oils at East Coast refineries are large, totaling 10,959,000 bbls. as of August 22, but refiners believe that these stocks will be substantially reduced with the advent of colder weather. Improvement in crude oil prices, and consequently in market values for these inventory holdings, has been one of the bright spots of the eastern picture in recent weeks.

Diesel Oil

Contract deliveries continue to account for the bulk of the movement of Diesel oil locally, and the market is unchanged at $1.40 per barrel, bulk, f.o.b. refinery terminals. Marine consumption of Diesel oil has been running into satisfactory totals, taking into consideration the general depression in shipping activities, and refiners appear confident of their ability to hold the market at a $1.40 minimum.

Domestic demand for Diesel oil is still one of the features of the market, and refiners look for further constructive developments along this line during the remainder of the year.

Gas Oil

Spot sales of gas oil continue rather light, and this division of the market is still lacking in the firmness which has characterized most other refined products in recent weeks.

Refiners continue to quote 28 plus recycled gas oil at 4 cents per gallon in tank car lots, but this price is being freely shaded an eighth and in some instances spot gas oil can be bought at 3¾ cents per gallon for immediate shipment.

Gas oil stocks are light, but marketers look for improvement when colder weather stimulates the demand for domestic furnace oils, which will mean considerable consumption of low-grade gas oil over the winter months.

Lubs

Jobbing demand for cylinder oils was well maintained throughout the week, and the market was steady at recently advanced levels. Refiners continued to show strong price views on all grades, but buyers in most instances were still limiting purchases to immediate requirements, and were unwilling to book far ahead. Export inquiry was a little better.

Industrial lubs were moving out in better volume during the week, and prices were steady and unchanged on all grades.

Wax

Domestic demand for paraffin wax has shown some improvement, and buyers who have been out of the market for a considerable period are beginning to come in to cover prompt and nearby requirements in fairly substantial quantities.

Prices were strongly held on all grades of fully refined this week and sellers were talking higher prices on several grades, reflecting the stronger undertone in evidence at refinery points.

Export Market

There were no cargo sales of either gasoline or kerosene reported at the Gulf during the week, and no inquiries developed. Recent advances in Gulf quotations, traders reported, have had a tendency to divert foreign buying to Russia and Rumania, which are underselling the American market.

Venezuelan crude continues available at 52 cents per barrel, with little demand, and Mexican heavy crude is offered at 46 cents per barrel, plus taxes, with no substantial demand in evidence.

Export operators here believe that France will be in the market for several gasoline cargoes during September, and are watching with considerable interest to see if American Gulf sellers will be successful in closing any of this business.

Petroleum Exports

Small lot trading continued to characterize the local export market situation during the past week, and buyers in most instances continued to confine their purchases to small lots for prompt and nearby shipment.

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Aug. 22	Aug. 15	Aug. 8
Gasoline	90,000	130,000	280,000
Naphtha	5,000	360,000	470,000
Kerosene	13,000	8,000	40,000
Fuel oil	240,000	40,000	285,000
Lubricating oil	990,000	735,000	2,710,000
Petroleum, ref.	715,000	628,000	620,000
	Pounds		
Petrolatum	10,000	.....	.....
Paraffin wax	1,140,000	1,035,000	1,175,000
Refined	125,000	45,000	150,000
Scale	430,000	55,000	300,000
Lubricating grease	1,400,000	473,000	340,000

While the tone of the export market is decidedly bullish, foreign buyers are not coming in with orders in the expected volume, and some export traders in the local market express the fear that the present upward movement in refined products prices in American markets will result in further diversion of foreign buying of gasoline and other refined products from the American market to Russian and Rumanian sellers.

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended August 22 totaled 287,000 bbls., a daily average of 41,000 bbls., compared with 115,000 bbls., a daily average of 16,429 bbls. for the previous week and a daily average of 42,107 bbls. for the four weeks ended August 22. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
New York	132,000
Philadelphia	115,000
Others	40,000
Total	287,000
Daily average	41,000
At Gulf Coast ports—	
All ports	None
At Atlantic and Gulf Coast ports—	
Total	287,000
Daily average	41,000
Daily average four weeks	42,107

Distribution of total California oil receipts is as follows:

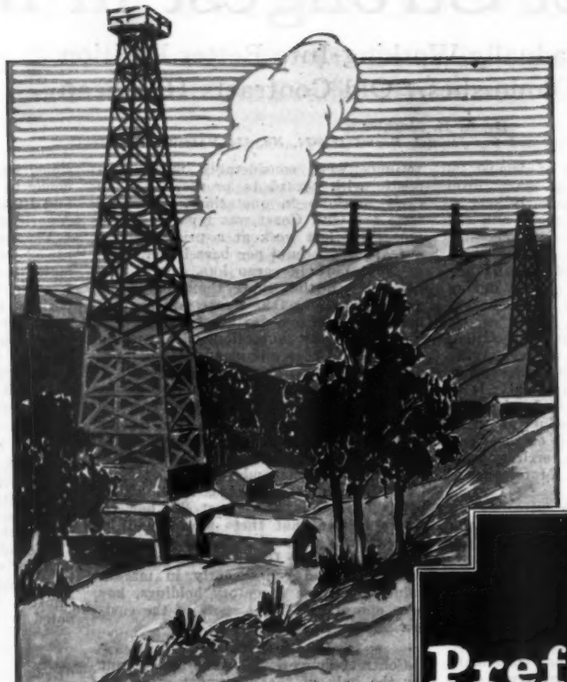
Gasoline	279,000
Lubricants	8,000

There were two cargoes of California gasoline reported shipped East from California during the week, 89,000 bbls. on the T. J. Williams for Seawaren, N. J., and 79,000 bbls. on the Thomas H. Wheeler for New York.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended August 22 totaled 1,034,000 bbls., a daily average of 147,714 bbls., against 2,049,000 bbls., a daily average of 292,714 bbls. for the previous week and a daily average of 190,857 bbls.

(Continued on Page 98)



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WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 34)

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 4, H.&G.N. Sur. ..... Spudded and shut down.
Penny & Posey's No. 1 Justice, 1,980 ft. from S and 1,680 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) ..... Total depth 3,202 ft.

HOWARD COUNTY

Green O. & R. Co.'s No. 1 Denman, 990 ft. from S and 2,310 ft. from W Sec. 14, Blk. 20, Twp. 1s, T.&P. Sur... Spudded and shut down.
Merrick & Lamb's No. 2 Chalk, 990 ft. from the N and W lines of Sec. 125, Blk. 29, W.&M.W.R.R. Sur. .... Location.

IRION COUNTY

Davis et al's No. 1 Sugg, 1,560 ft. from S and 935 ft. from W Sec. 3,081, Blk. 28, H.&T.C. Sur. ..... Total depth 3,152 ft.; underreaming 10-in. casing.
Denny & Andrews' No. 1-A Tankersley, 200 ft. from S and 2,000 ft. from E of Sec. 709, J. P. Imhoff Sur. ... Shut down 250 ft.
Ellis et al's No. 1 Nutt, 1,350 ft. from N and 450 ft. from E of Sec. 694, Kheikenhoim Sur. ..... Drlg. 1,485 ft.
Stanolind Oil & Gas Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,196, T.T.R.R. Sur. ..... Cleaning out on bottom; total depth 5,950 ft.
Straughn & Texannati Oil Co.'s No. 1 Tankersley, 150 ft. from S and 750 ft. from W of Sec. 4, Gonzales County School Land ..... Total depth 1,506 ft.; plugged back to 1,220 ft.
Straughn & Adkins Bros.' No. 1 Lee, 1,980 ft. from W and 420 ft. from N of Sec. 729, C. Kaiser Sur. ..... Drlg. 675 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-acre tract in G. Martinez Sur. ..... Shut down 1,005 ft.

LOVING COUNTY

Ervin & Mahres' No. 1 Thrope, 2,310 ft. from E and 330 ft. from S Sec. 46, Blk. 53, T.&P. Sur. ..... Shut down 810 ft.
Slack's No. 1 Lynd, 990 ft. NE and 330 ft. SE of Sec. 3, Blk. 2, W.&N.W. Sur ..... Shut down 400 ft.
Eppenauer et al.'s No. 1 Johnson, 330 ft. from NW and SW of Sec. 86, Blk. 1, W.&N.W. Sur. ..... Drlg. 3,705 ft.
Falbe & Evans' No. 1 Dean, 330 ft. from NE and 990 ft. from NW Sec. 79, Blk. 33, H.&T.C. Sur. ..... Shut down 2,500 ft.
Lewis & Slagel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W Sec. 6, Blk. 56, Twp. 1, T.&P. Sur... Spudded and shut down.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Shut down 3,385 ft.
Martin et al's No. 2 Ramsey, 990 ft. from SE and 2,310 ft. from SW Sec. 83, Blk. 1, W.&N.W. Sur. ..... Shut down 4,080 ft.
Slagel Drlg. Co.'s No. 1 Cartwright et al, 2,310 ft. from S and 990 ft. from W Sec. 1, Blk. 57, Twp. 1, T.&P. Sur. ..... Total depth 3,182 ft.; placed on pump after pumping water off; well made a 5-bbl. head of oil Aug. 9, pumping into pit.
Tennant et al's No. 1 Martin, 990 ft. from NW and SW Sec. 66, Blk. 1, W.&N.W. Sur. ..... Shut down 1,400 ft.

MENARD COUNTY

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor. Sec. 132, E.L.R.R. Sur. ..... Shut down 2,860 ft.

PECOS COUNTY

Dittman's No. 1 Sanford, 330 ft. from NW and 1,650 ft. from NE of Sec. 55, Blk. 10, H.&G.N. Sur. ..... Moving in material (standard)
Slaughter et al's No. 1 Sun Yates, 60 ft. S of Sun Oil Co.'s No. 1 Yates, Sec. 59, Blk. 1, I.&G.N. Sur. .... Location.

REEVES COUNTY

Cunningham et al's No. 1 Wright, 1,320 ft. from S and W Sec. 58, Cassel's Sur. ..... Spudded and shut down.
Humble Oil & Ref. Co.'s No. 1 Bolmorhea Livestock Co., 1,320 ft. from N and 1,320 ft. from W Sec. 33, Blk. 5, E.&G.N. Sur. ..... Drlg. 4,770 ft.; top sand 4,684 ft.
James & Milton's No. 1 Patterson ..... To straightream; total depth 1,600 ft.
Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. ... Shut down 5,044 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 ..... Shut down 2,398 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... Drlg. 3,105 ft.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Waiting on cement to set; cem 8¼-in. casing at 4,063 ft.; pay at 4,000 ft. cased off.
George Wilson's No. 1 Page, Sec. 40, Blk. 1, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... Shut down 5,053 ft.

SCURRY COUNTY

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 5,100 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W Sec. 68, Blk. 3, H.&G.N. Sur. ..... Spudded and shut down.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... Shut down 3,500 ft.
Simon & Brock et al's No. 1 Cruse, 2,310 ft. from S and E Sec. 119, Blk. 97, H.&T.C. Sur. ..... Show oil 1,798, 1,820, 1,850 ft.; shut down 2,500 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.-K.-T. Sur. ..... Shut down 2,669 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.
Miller Bros.' No. 1 Allison & Burke, C NW cor. Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S Sec. 26, Blk. 161, G.C.&S.F. Sur... Shut down 6,120 ft.
Jones et al's No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... Shut down 2,545 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Norsworthy, 2,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... Shut down 760 ft.; show oil and gas 725 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur. ... Shut down 1,994 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... Shut down 200 ft.

UPTON COUNTY

Cosby Prod. & Roy. Co.'s No. 1 Lane, 2,310 ft. from S and 1,650 ft. from W, Sec. 36, Blk. 1, M.-K.-T. Sur. .. Moving in material.
Rankin et al's No. 1 Cordova Union Land, 660 ft. from N and E Sec. 6, G.C.&S.F. Sur., 1¼ miles S of Rankin ..... Shut down 2,518 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 10, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 5,420 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Shut down 6,780 ft.

WARD COUNTY

Bradford et al's No. 1 Carson, 990 ft. from NE and SE Sec. 26, Blk. 5, H.&T.C. Sur. ..... Making estimated 5,000,000 ft. gas; total depth 3,195 ft.
Bradford & Abell's No. 2 Boogher, 1,160 ft. from NW and 800 ft. from SW Sec. 11, Blk. 5, H.&T.C. Sur. ... 300 ft. oil in hole; shut down 2,260 ft.; 300 ft. oil in hole; top pay 2,195 ft.
Bradford's No. 1 York, 330 ft. from NE and SE of Sec. 10, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,490 ft.; top pay 2,285 ft.; 1,800 ft. oil in hole.
Beckley et al's No. 1 Johnson, 4,140 ft. from NE and 990 ft. from SE Sec. 8, Blk. 32, H.&T.C. Sur ..... Shut down 2,240 ft.; to run tubing.
Boogher's No. 1 fee, 235 ft. from SE and 3,553 ft. from NE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Drlg. 1,250 ft.
Buster Black's No. 1 Hall & Roberts, 990 ft. from NE and 1,650 ft. from NW Sec. 17, Blk. 32, E.&T.C. Sur... Shut down 1,800 ft.
Central Oil & Gas Co.'s No. 1 Barrow, 330 ft. from NW and 1,263 ft. from SW Sec. 55, J. W. Jackson Sur. ..... Fishing 1,960 ft.
H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW Sec. 12, Blk. 5, H.&T.C. Sur. ..... Spudded and shut down.
Gulf Prod. Co.'s No. 8 O'Brien, 2,310 ft. from S and 330 ft. from W lines of Sec. 194, Blk. 1, B.B.&C. Sur... Shut down 540 ft.
Hankinson et al's No. 1 Emery, 3,090 ft. from SE and 510 ft. from SW Sec. 26, Blk. 5, H.&T.C. Sur. ..... Shut down 2,238 ft.
Moran & Miles' No. 1 Boogher, 3,603 ft. from NE and 1,303 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Shut down 530 ft.
R. F. Owens' No. 1 Lee, 1,344 ft. from NW and 4,533 ft. from SW Sec. 1, J. Howe Sur. ..... Rigging up standard tools.
Peck & Fuglar's No. 1 Merritt, 3,063 ft. from NE and 1,698 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Shut down 885 ft.
Rector Oil Co.'s No. 1 Smith, 1,320 ft. from N and E, Sec. 22, Blk. A, G.M.M.B.&A. Sur. ..... Shut down 3,602 ft.
Rexford et al's No. 2 Johnson, 2,300 ft. from SE and 4,450 ft. from NE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Drlg. 425 ft.
Paul Ryan et al's No. 1 J. S. Reynolds, 4,110 ft. from NE line and 150 ft. from NW line, Sec. 12, Blk. 5, H.&T.C. Sur. ..... Location.
Shipley et al's No. 5 Hayzlett, 2,490 ft. from SE and 1,980 ft. from SW Sec. 17, Blk. 5, H.&T.C. Sur. ..... Shut down 2,507 ft.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... Shut down 4,545 ft.
Sturm & Simms Oil Co.'s No. 1 Jones, 2,310 ft. from NE and 330 ft. from SE Sec. 25, Blk. B-29, P.S.L. Sur. ... Drlg. 1,517 ft.
White et al's No. 1 Burtner, 150 ft. from NE and 515 ft. from SE of Sec. 8, Blk. 32, H.&T.C. Sur. ..... Shut down 755 ft.

WINKLER COUNTY

Liner Drlg. Co.'s No. 1 Campbell, 350 ft. from N and E cor. Sec. 2, Blk. B-5 ..... Shut down 4,640 ft.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 34)

HUTCHINSON COUNTY

Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur. ..... Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur... S.D. 450 ft.
Huber Prod. Co.'s No. 1 Johnson Bros. (Premier), 330 ft. N and E of W 60 ac., N 80 ac., NW, Sec. 3, Blk. Y, A.&B. Sur. ..... S.D. 3,016 ft.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W. SE, Sec. 30, Blk. Y, A.&B. Sur. ..... S.D. 3,115 ft.
Timms-Deatch's No. 4 Moore, 330 ft. N and W, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft; S.D. 4-167 ft.

MOORE COUNTY

Interstate's No. 1 Nield, C NE, Sec. 18, Blk. 44, H.&T. C. Sur. ..... Location.
Magnolia Pet. Co.'s No. 1 Jones, 330 ft. N, 330 ft. E, Sec. 170, Blk. 3-T, T.&N.O. Sur. ..... Drlg. 3,355 ft.
Pollard et al's No. 1 Hall, 330 ft. S and E, NE, Sec. 131, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Sunray Oil Co.'s No. 2 Jones, 330 ft. N and W, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Texas Interstate P. L. Co.'s No. 1-23 Thompson, C N½ NE, Sec. 23, Blk. 44, H.&T.C. Sur. ..... Location.
Texas Interstate P. L. Co.'s No. 1-37 Sneed, C NW, Sec. 37, Blk. 6-T, T.&N.O. Sur. ..... Location.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... S.D. 400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. ..... S.D. 1,005 ft. for csg.

POTTER COUNTY

Red River Gas Co.'s No. 6-A Bivins, 1,344 ft. S, 1,089 ft. W, SE, Sec. 37, Blk. M-20, G.&M. Sur. ..... Drlg. 1,780 ft.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ..... S.D. 900 ft.
Travis et al's No. 1 Cunningham, 330 ft. S and W, Sec. 74, Blk. M-2, H.&G.N. Sur. ..... S.D. 2,690 ft.

WHEELER COUNTY

Clarity et al's No. 1 Porter, 330 ft. S and W, SE, Sec. 2, Blk. A-9, H.&G.N. Sur. ..... S.O. 1,960 ft; S.D. 2,005 ft.

EAST CENTRAL TEXAS WILDCATS

(Continued from Page 33)

GREGG COUNTY

Abernathy et al's No. 1 L. A. Rodden, 680 ft. from N and 320 ft. from E lines of Martha Dillard Sur. .. Top Austin chalk 3,521 ft.; set csg. 3,624 ft.
N. M. Acre et al's No. 1 S. J. Boles, 16 ft. S and 153 ft. E of SE cor. of William Carleton Sur. but in Carl Rhodes Sur. ..... Drlg. 125 ft.
Alma Petroleum Co.'s No. 1 J. W. L. Younse, 450 ft. from N and 200 ft. from W 86-ac. tract in William Goodman Sur. ..... Drlg. 2,780 ft.
Atlantic Prod. Co.'s No. 1 J. J. Fuller, 394 ft. from E and 343 ft. from S of 50-ac. tract and lease, Mowery Irwin Sur. ..... Derrick.
Atlantic Oil Prod. Co.'s No. 2 M. Haynes, 1,200 ft. from E lines of 548-ac. tract, W. C. Alvice Sur. .... Location.
Atlantic Oil Production Co.'s No. 1 Meyers, 400 ft. from S line and 300 ft. from W line of tract and in A. T. McGee Sur. ..... Drlg. 3,548 ft.
Armstrong and Pitts' No. 1 Walker, 940 ft. from N and 1,970 ft. from E of survey, Martha Dillard Sur. ..... Derrick.
P. P. Ash et al's No. 1 A. H. Tubbs, 1,550 ft. from S and 4,120 ft. from E of survey, Dolores Sanches Sur. ..... Derrick.
Barnsdall Oil Co.'s No. 1 G. E. Adams, 1,150 ft. from S and 3,720 ft. from W of G. W. Hooper Sur. ..... Derrick.
Bob et al's No. 1 T. L. Broy, 290 ft. from E and 1,640 ft. from S of H. A. Holdt Sur. ..... Derrick.
M. T. Beeler's No. 1 Finley and Thomas, 150 ft. from N and 150 ft. from W of 10-ac. lease, C. H. Alexander Sur. ..... Derrick.

Branson et al's No. 1 J. J. Fuller, 1,050 ft. from N and 170 ft. from W of survey, M. Alexander Sur. ..Derrick.
B. L. Brooklin's No. 1 J. M. Tuttle, 150 ft. from N and 205 ft. from E of 12½-ac. lease, William H. Castleberry Sur. ..Shut down 2,800 ft.
Callahan et al's No. 2 Mollie Fenn, 450 ft. from S and 150 ft. from W lines of 44-ac. tract in D. Ferguson Sur. ..Rigging up.
Campbell and Lee's No. 1 A. Johnson, 170 ft. from N line and 134 ft. from E line of 11-ac. lease in the M. Dillard Sur. ..Derrick.
Columbia Oil & Gas Co.'s No. 1-A Harley, 650 ft. E and 300 ft. S of SE cor. of Laura Walker 45-ac. tract, William Robinson Sur. ..Derrick.
Continental Oil Co.'s No. 1 J. J. Fiewellen, 359 ft. from N and 949 ft. from E of 200-ac. lease, Marshall Mann Sur. ..Location.
Cox and Hammond's No. 1 L. A. Rodden, 1,319 ft. from N and 602 ft. E of SE cor. of 105-ac. tract in John R. Crosby Sur. ..Drlg. 3,578 ft.; no gauge.
Davis and Russell's No. 1 M. E. Anderson, 150 ft. from E and 75 ft. from S of 3-ac. lease in Kilgore Townsite, Mary Van Winkle Sur. ..Shut down 3,558 ft.
Charles Davidson et al's No. 1 Paul Jones, 7,000 ft. from most southerly N line and 3,600 ft. from W, W. P. Chisum Sur. ..Waiting on csg. 3,666 ft.
Duffey-Davis and McGrede's No. 1, 1,310 ft. from N and 3,160 ft. from E of survey, Martha Dillard Sur. ..Drlg. 2,896 ft.
Eastland Oil & Gas Co.'s No. 1 B. B. Sparks, 150 ft. from N and 150 ft. from W of E 50 acres of 100-ac. tract, Harvey R. Kirk Sur. ..Shut down 3,240 ft.
Dr. J. C. Falvey et al's No. 1 fee, 150 ft. from S and 150 ft. from W of 58-ac. tract, Marshall Mann Sur. ..Drlg. 3,692 ft.; no gauge.
Fain & McGaha's No. 1 Corbin, 950 ft. from N line of lease and 1,425 ft. from W line of survey in the H. Edwards Sur. ..Location.
Golding and Murchison's No. 1 Sallie Smith, 300 ft. out of NW cor. of lease in the Mary Scott Sur. ..Drlg. 2,936 ft.
Greer's No. 1 L. M. Colburn, 150 ft. from E and 150 ft. from S of 45-ac. lease, 5,700 ft. from E and 850 ft. from N of survey, Henry Hathaway Sur. ..Rig up.
Harper Petroleum Corp.'s No. 1 Woodley Jones, 2,500 ft. from N line and 3,900 ft. from E line of William H. Castleberry Sur. ..Derrick.
Galves Petroleum Corp.'s No. 1 M. T. Cole, 1,000 ft. E and 2,100 ft. N of NE cor. of Samuel Brooks Sur. in the J. M. Meador Sur. ..Drlg. 3,490 ft.
Howard and Russell's No. 1 Stone, 150 ft. from N and 150 ft. from E of 100-ac. tract, Bailey Anderson Sur. ..Derrick.
Humble Oil & Refining Co.'s No. 1 H. M. Lawrence, 540 ft. from N and 219 ft. from W of 100-ac. tract, David Ferguson Sur. ..Moving in material.
Humble Oil & Refining Co.'s No. 1 J. H. Sheppard, NE cor. of 215-ac. tract in L. Allen Sur. ..Derrick.
Humble Oil & Refining Co.'s No. 1 J. M. McFarlo, 1,400 ft. from N and 449 ft. from W lines of 57.5-ac. tract, L. J. Rigsby Sur. ..Derrick.
K. B. Oil Co.'s No. 1 Dickson, 150 ft. from S and 150 ft. from W of 5-ac. lease, Mary Van Winkle Sur. ..Rig rig.
Klitner and Easterling's No. 1 Missie Young, 230 ft. S and 250 ft. E of SW cor. of the H. Edwards Sur. in the C. Rhodes Sur. ..Derrick.
Kimsey-Trimble's No. 1 Griffith Davis, 922 ft. E of N line of Griffith Davis 119.5-ac. tract from NW cor. of same and 146 ft. at right angles, W. P. Chisum Sur. ..Set csg.; T. D. 3,670 ft.
Charles Love et al's No. 1 J. B. Doby, 150 ft. from E and 150 ft. from S of S 6 acres of W 42 acres of 170-ac. tract, W. H. Castleberry Sur. ..Derrick.
J. K. Livingston Oil Co.'s No. 1 D. C. Johnson, 200 ft. from N and 150 ft. from E of survey, Martha Dillard Sur. ..Top Pecan Gap 2,480 ft.; shut down 2,810 ft.
Magnolia Petroleum Co.'s No. 1 L. F. M. Fonville, 150 ft. from S and 440 ft. from E lines of 50-ac. lease, W. M. Tyndale Sur. ..Waiting on csg. 83 ft.
Ross et al's No. 1, located on Findley & Thomas 50-ac. tract, 150 ft. from S line of 6.66-ac. lease, C. H. Alexander Sur. ..Derrick.
Scheig et al's No. 1 Rube Smith, 1,160 ft. N and 300 ft. from W of tract and survey, Slaughter Sur. ..Derrick.
Earl Sneed et al's No. 1 A. M. Kensel, 393 ft. from N and 360 ft. from W of N 23-ac. lease in 94 acres, H. H. Kirk Sur. ..Location.
Sun Oil Co.'s No. 1 J. W. Akin, 330 ft. from N and W lines of 35.68-ac. tract in George A. Thomason Sur. ..Set 6⅝-in. csg. 3,513 ft.
L. C. Thorpe's No. 1 J. A. Butts, 4,350 ft. S of N and 5,300 ft. E of W line of survey, Mary Van Winkle Sur. ..Top sand 3,535 ft.; T. D. 3,580 ft.; well caught fire and burned for 5 hrs.
Tidal Oil Co.'s No. 1 Lake Divernia Fish and Game Club, 300 ft. from N and 550 ft. from W lines of tract in William G. Painter Sur. ..Rig up.
Valentine Oil Co.'s No. 1 Goyne-Hughey, 6,100 ft. from S and 6,800 ft. from W of survey, Mary Van Winkle Sur. ..Derrick.
H. M. Wages et al's No. 1 Finley and Thomas, 165 ft. from E and 150 ft. from S of 10-ac. lease, Charles H. Alexander Sur. ..Shut down 3,200 ft.
L. H. Wents Oil Co.'s No. 1 G. W. Richie, 330 ft. S of NE cor. of W 20 acres of 40-ac. tract in the William Carlton Sur. ..Drlg. 1,125 ft.
Woodley Petroleum Co.'s No. 1 Dyers, 200 ft. from S and 200 ft. from W of 640-ac. lease, H. Hathaway Sur. ..Derrick.
Ziegler Oil Co.'s No. 1 L. D. Campbell, 540 ft. from N and 219 ft. from E of 72½-ac. tract, David Ferguson Sur. ..Derrick.

HENDERSON COUNTY

Westside Investment Co.'s No. 1 Thornhill, 450 varas from W and 400 varas from N line of survey, James Spivey heirs Sur. ..Shut down 4,850 ft.

HOPKINS COUNTY

Thelma Wells' No. 1 Taylor, 220 ft. from N and W lines of 80-ac. tract in the John Polk Sur. ..Rig up.

HOUSTON COUNTY

N. E. Irish's No. 1 Mrs. Byrdie Watters, 2,300 ft. W and 300 ft. S from the NE cor. of I. J. Ellis Sur. ..Spudded and shut down.
Ramsland and Ramsland's No. 1 Pennington, 750 varas W of E line and 500 varas from S line of survey on 186-ac. tract, Ramond LaGarza Sur. ..Shut down 620 ft.
Phillips and Phillips' No. 1 Kennedy Bros., 485 varas out of SW cor. of 100-ac. tract, Jose M. Procella Sur. ..Rig up and shut down.

HUNT COUNTY

Foster and Earl's No. 1 Whitney and Clark, 150 ft. out of NW cor. of 50-ac. tract in W. H. Landrum Sur. ..Spudded and shut down.

LAMAR COUNTY

Indian States Oil Co.'s No. 1 W. T. Watson in Ignalius Aud Sur. ..Shut down 4,026 ft.
Puritan's No. 1 George Parr, 2,000 ft. from W of Frisco Railway and 1,000 ft. from E line of R. Russell Sur. ..Ready to spud.

LEON COUNTY

Cooper et al's No. 1 Lynch, 4,000 ft. from W line and 250 ft. N from the S line of Thomas H. Gardner Sur., and in 200-ac. tract ..Shut down 1,750 ft.; shale.
Deep Rock Oil Co.'s No. 1 Pearistone ..Drlg. 350 ft.
Sun Oil Co.'s No. 2 Grayson ..Shut down 3,741 ft.

LIMESTONE COUNTY

George McCamey's No. 1 B. K. Arnett, center of Blk. 13 in Casson Townsite ..Shut down 1,720 ft.

MORRIS COUNTY

Dumas et al's No. 1 Tom Ball, 1,046 ft. from E and 248 ft. from S of 71-ac. tract, A. S. Young heirs Sur. ..Derrick.

NACOGDOCHES COUNTY

Bunte et al's No. 1 A. F. Boatman, 330 ft. from S and 150 ft. from W of 67-ac. tract, William A. Moore Sur. ..Shut down 1,605 ft.
Burke et al's No. 1 F. R. Patterson, 6,515 varas from W and 315 varas from W line of Patterson 70-ac. tract, Joseph Las Santos Chay Sur. ..Shut down 4,290 ft.
Churchill-Armstrong's No. 1 Max W. Hart, 2,640 ft. from N line and 2,640 ft. from S of N line of survey, George Pollett Sur. ..Rig up.
Foreman and Weller's No. 1 Norris, 60 ft. NW of E line and 420 ft. S of road, in 73.5-ac. tract, Hosea Y. Barbo Sur. ..Rigging up.
Foreman et al's No. 1 Robert Mattaner, NW cor. of 520-ac. tract, J. A. Cherino grant ..Rig up and shut down.
Gainer et al's No. 1 Nice Well, 18 miles SE of Nacogdoches, 600 ft. from S and 150 ft. from W of Wells tract in A. Cherino Sur. ..Reaming 3,070 ft.
Harwell and Scott's No. 1 R. I. Driver, 1,500 ft. from SE cor. of P. B. Ballard 125-ac. tract, 15 miles SE of Nacogdoches in Patricia De Torres Sur. ..Shut down 2,800 ft.
Joiner and Henson's No. 1 Andy Legg, 330 ft. from N and 330 ft. from W of tract, John Durst Sur. ..Shut down 3,920 ft.
Morgan Oil Corp.'s No. 1 R. E. Burt, center of J. I. Reed 20-ac. tract, Jose Luy De La Bega Sur. ..Shut down 4,012 ft.
Naco Oil Co.'s No. 1 J. C. Orton, 1,000 ft. NE of highway and E of town and E of creek in Nacogdoches Townsite, A. Riola Sur. ..Spudding.
W. W. Wheeler's No. 1 I. D. Parmley, about 155 varas N of S line and about center of E line of survey, John Kirby Sur. ..Shut down 4,007 ft.
Sequia's No. 1 Vanover, 6,072 ft. from N and 6,636 ft. from E of Alford Oliver Sur., E Boyd E 100-ac. tract ..Derrick.
Taylor-Vaughn's No. 1 Dixon Greer, 160 ft. from W and 450 ft. from N lines of 60-ac. tract in the M. G. Herrera Sur. ..Shut down 250 ft.; shale.
Big Indian Oil Co.'s No. 1 J. N. Stewart, center of 79-ac. tract in the Jose Ignacio Ybarbo Sur. ..Derrick.
L. E. Trout and Dison's No. 1 E. A. Blount, 150 ft. out of NW cor. of survey and tract, E. D. Williams Sur. ..Rig up and shut down.

RAINS COUNTY

Berry and Hale's No. 1 Ownsby, 150 ft. N and 1,100 ft. from E of most easterly SE cor. of survey, Alexander Sur. ..Preparing to start drlg.; T. D. 2,095 ft.

RED RIVER COUNTY

Royle and Jondreau's No. 1 V. S. Griffin, 700 ft. from N line and 650 ft. E of W line of survey, J. C. Brown Sur. ..Derrick.
Droppleman and Bundy's No. 1 J. W. Cunningham, 250 ft. from the S and 1,066 ft. from the E lines of B. M. Ballard Sur. ..Rig up.
Harris & Joiner's No. 1 E. Howison, 225 ft. S, 185 ft. W of 79-ac. tract, William Humphreys Sur. ..Preparing to start up; T. D. 2,216 ft.
Johnson Petroleum Syndicate's No. 1 Warren Randolph..Shut down 2,460 ft.
Pearsons et al's No. 1 J. R. Dellahunty, 500 ft. from N of Isaac Moore Sur. and 200 ft. E of E line of Robert Glass Sur. ..T. D. 740 ft.; preparing to set 10-in. csg.

ROCKWELL COUNTY

J. F. Barron's No. 1 H. L. Lofland, center of 69-ac. tract in W. M. Bird Sur. ..Waiting on csg.; T. D. 120 ft.

RUSK COUNTY—MISCELLANEOUS

Humble Oil & Refining Co.'s No. 1-B Hayward White, 990 ft. from N and 262 ft. from W lines of 134-ac. tract in J. M. Scott Sur. ..Rig up.
Devonian's No. 1 Mrs. Janie Alford, 150 ft. from N and W lines of E 40-ac. Alford tract in Henry B. Dance Sur. ..Derrick.

KILGORE AREA—RUSK COUNTY

E. L. Chapman's No. 1 B. O. J. Russell, 200 ft. from N and E lines of 38-ac. tract in J. English Sur. ..Top sand 3,654 ft.; T. D. 3,665 ft.
Crider and Manley's No. 1 R. A. Metley, 600 ft. from S and 1,150 ft. from W of J. T. McDaniels Sur. ..Derrick.
Harry Elliott's No. 1 Carroll, 175 ft. from N and 200 ft. from E of 7-ac. tract, W. R. Cook Sur. ..Location.
Humble Oil & Refining Co.'s No. 1 R. E. Holt, 380 ft. from N and E lines of 91.4-ac. tract in the J. M. Barton Sur. ..Rig up and shut down.
Lyle and Orr's No. 1 Powers, 2,200 ft. from N and 360 ft. from E of survey, J. Womack Sur. ..Rig up.
Moser's No. 1 Buntyn, 554 ft. from N and 325 ft. from E of survey, the most northeasterly cor. of survey, J. C. Snow Sur. ..Drlg. 1,575 ft.
Humble Oil & Refining Co.'s No. 1 George Alexander, 330 ft. from N and 500 ft. from W lines of 100-ac. tract in the Thomas H. Smith Sur. ..Coring 3,711 ft.
Humble Oil & Refining Co.'s No. 1 Eula McDavid, 330 ft. from S and 400 ft. from NW lines of 88.6-ac. tract in the T. H. Smith Sur. ..Top sand 3,674 ft.
Imperator Oil Co.'s No. 1 J. Johnson, 150 ft. from S and 250 ft. SW of railroad on 17-ac. tract in the H. B. Dance Sur. ..Drlg. 2,670 ft.
Pelton Petroleum Co.'s No. 1 C. O. Christian, 775 ft. N and 500 ft. W of NW cor. of Meredith McCabe Sur. in the J. S. Whiteman Sur. ..Drlg. 3,480 ft.
Mrs. Joyce Richardson, 150 ft. from N and 150 ft. from W of 10-ac. tract, Robert W. Smith Sur. ..Derrick blown down.
Shell Petroleum Corp.'s No. 1 W. P. Moore, 1,675 ft. from N and 308 ft. from E lines of H. Wiggins Sur., Abstract 875 ..Reaming to set 6-in. csg.; top sand 3,713 ft.
Southern Crude Oil Pur. Co.'s No. 1 Rena Christian, 330 ft. from E and 150 ft. from S of lease, W. R. Cooke Sur. ..Top sand 3,668 ft.; T. D. 3,674 ft.; preparing to run csg.
State Production Co.'s No. 1 Gipson, 630 ft. from N and 175 ft. from E lines of tract in T. Lloyd Sur. ..Spudded and shut down.

JOINER POOL—RUSK COUNTY

Armstrong's No. 1 Alford, 151 ft. from S and 1,080 ft. from W of survey, T. J. Moore Sur. ..Derrick.
Bullock's No. 1 Alford, 1,300 ft. from S and 150 ft. from W of survey, T. J. Moore Sur. ..Shut down 2,953 ft.
Campbell Oil Co.'s No. 1 Compton, 600 ft. from N and W line and Simon Del Rio Sur., 1¼ miles NW of Minden ..Derrick.
Cap Rock Oil Co.'s No. 1 Burton, 1,100 ft. E of W line and 520 ft. S of N line in SE cor. of 62½-ac. tract, Juan Jose Yarbo Sur. ..Drlg. 1,225 ft.
Dunnigan and Holt's No. 1 Cansler, 150 ft. N and W of SW cor. Gabe McIlroy 16.3-ac. tract in F. Cordova Sur. ..Drlg. 2,950 ft.

Elsy and Tauteaham's No. 1 Deason, 1,300 ft. from W and 3,700 ft. from S of survey, Juan Ximenes Sur. ..Shut down 2,310 ft.
Elsy Drlg. Co.'s No. 1 Frederick, 150 ft. from S and 603 ft. from W of Frederick 90-ac. tract, Juan Ximenes Sur. .....Derrick.
C. C. Julian's No. 1 Motley, 780 ft. from N and 1,673 ft. from W of survey, J. T. McDaniels Sur. .....Set csg.; T. D. 191 ft.
Leonard Petroleum Co.'s No. 1 Sanger Bros., 390 ft. from N and 350 ft. from W of survey, J. P. Meredith Sur. .....Shut down 4,079 ft.; cored sand; oil show.
Ray Martin et al's No. 1 Russell, 600 ft. from N and 150 ft. from E lines of lease in T. J. Martin Sur. ..Top sand 3,740 ft.; running tubing; T. D. 3,790 ft.
Marr et al's No. 1 Lowns, 1,200 ft. from most westerly E line and 3,150 ft. from S line of survey, W. G. Tuttle Sur. .....Derrick.
Mass and Tucker's No. 1 Matthews, 3,344 ft. from N, 4,356 ft. from E, Dalines Cartimas Sur. .....Shut down 3,310 ft.
H. C. McBride's No. 1 Sue Hale, 150 ft. from S and 150 ft. from W of Sue Hale 88-ac. tract, John Darley Sur. .....Set 12½-in. csg. 212 ft.
Frank Melat's No. 1 Newton Orr, 300 ft. S of N line of 202½-ac. tract, William Tippett Sur. .....Shut down 3,225 ft.
Nat Saddler's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. .....Shut down 1,985 ft.
Pitts et al's No. 1 Freeman, 1,000 ft. N of S line and 1,000 ft. E of W line of 181-ac. tract, J. Watkins Sur. .....Rig blew down.
Priest et al's No. 1 Mayfield, 155 ft. from N and W lines of 22-ac. lease in Daniel Clark Sur. .....Fishing 2,430 ft.
Rowe et al's No. 1 Maxwell, 855 ft. from E and 237 ft. from S of B. F. Maxwell 59-ac. tract, R. H. Pinney Sur. .....Derrick.
Shaheen and Keeler's No. 1 H. L. Griffin, 550 ft. from W and 2,000 ft. from S of survey, Juan Ximenes Sur. .....Derrick.
Suttles' No. 2 Holland, 156 ft. from N and 152 ft. from W of Holland 41.7-ac. tract, M. J. Prue Sur. ....Shut down 2,300 ft.

SMITH COUNTY

Adams and Berry's No. 1 T. O. Wright, 150 ft. from N line and 150 ft. from E line of Juan Vargus Sur. .....Shut down 1,150 ft.
Bailey Gaunce et al's No. 1 S. S. Cook, 150 ft. from S and 150 ft. from W of S. S. Cook 20-ac. tract in 189-ac. tract, Juan Vargus Sur. .....Shut down 2,350 ft.
Ben Banner's No. 1 Lee White, 925 ft. from E line and 1,200 ft. from N line of Abraham H. Scott Sur. .....Drlg. 3,080 ft.
Big Indian Oil Co.'s No. 1 Holland, 2,384 ft. from N and 1,446 ft. from E line of survey, Thomas Allen Sur. .....Drlg. 3,770 ft.
G. B. Bunte, trustee's No. 1 A. S. Jarvis, 150 ft. from S and 150 ft. from W of 267-ac. tract, Juan Vargus Sur. .....Rig up.
Bunte et al's No. 1 Atkinson, 1,000 ft. from S line and 1,000 ft. from N line of 330-ac. tract, Calloway Dean Sur. .....Derrick.
Roy I. Carter's No. 1-B T. O. Wright, 1,380 ft. from N and 1,050 ft. from E lines of Juan Vargus Sur. ..Location.
Rex Cannon et al's No. 1 Buella Meansa .....Derrick.
Central Oil & Gas Co.'s No. 1 T. O. Wright .....Drlg. 2,894 ft.
Cotton Belt Oil Co.'s No. 1 C. S. Jackson, 500 ft. from N and 500 ft. from W of 39.88-ac. tract, Henry Mickleborough Sur. .....Shut down 3,560 ft.; chalk.
Deason Oil Co.'s No. 1 T. O. Wright, 1,440 ft. from N and 250 ft. from W of T. O. Wright 86-ac. tract, Juan Vargus Sur. .....Derrick.
East Texas Refining Co.'s No. 1 Colored Methodist Church, James Jordan Sur. .....Drlg. 2,408 ft.
Hancock and McCarthey's No. 1 J. C. Cross, 200 ft. from E of road and 200 ft. N of S line of survey on a 13-ac. tract, Burbridge Sur. .....Set 10-in. csg. at 72 ft.
John Hoosier et al's No. 1 W. T. Roberts et al, 300 ft. from N and 277 ft. from W lines of 13⅓ acres in the Juan Vargus Sur. .....Waiting on connection; T. D. 3,650 ft.
Imperator Oil Co.'s No. 1 I. M. Green, 140 ft. from S and 165 ft. from E line of Green 86.5-ac. tract, NW of Overton and N and a little E of Big Indian No. 1 Holland .....Shut down 2,210 ft.
H. H. Lemaster's No. 1 T. O. Wright, 150 ft. from N and W lines of 8-ac. tract in J. Vargus Sur. .....Derrick.
Magnolia Petroleum Co.'s No. 6 J. R. Wright, 2,400 ft. from E and 1,800 ft. from N of survey, Juan Vargus Sur. .....Drlg. 2,320 ft.
McCarthey and Hancock's No. 1 Nellie Taylor, 250 ft. out of SW cor. of 73-ac. Taylor tract, F. M. Taylor Sur. .....Derrick.
A. A. McCutchin's No. 1 T. O. Wright, 150 ft. from E and 315 ft. from N lines of 5-ac. tract in Juan Vargus Sur. .....Derrick.
McMillan's No. 1 Wright, 794 ft. from N and 171 ft. from W of T. C. Wright 86-ac. tract, Juan Vargus Sur. .....Top Austin 3,547 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 J. H. Sharp, 530 ft. W and 1,170 ft. from S of most northerly NE cor. 482.67-ac. tract in the M. De Los Santos Sur. .....Location.
Miller et al's No. 1 McDavid .....Spudded and shut down.
Morrison's No. 1 L. Roy, 330 ft. N and E from SW cor. of 87-ac. tract in Henry Cools Sur. .....Shut down 3,900 ft.
Phillips & Phillips' No. 1 Anna Morrison .....Set 10-in. csg. 33 ft.; shut down.
M. M. Rowand et al's No. 1 Gibbons, 1,800 varas from W and 260 varas S of river (which is N line of survey), J. M. Garcia Sur. .....Shut down 3,610 ft.
Ruffin and Williams' No. 1 Hamp Florence, 700 ft. from N and 300 ft. from E of 192.5-ac. tract, Barnes Clark Sur. .....Coring 3,965 ft.
Stanley Lewis' No. 1 T. C. Wright, 1,500 ft. from N and 1,275 ft. from E lines of survey and 150 ft. from S and W lines of 3.76-ac. tract, Juan Vargus Sur. .....Location.
Smith & Son's No. 1 S. S. Cooke, 1,875 ft. N and 231 ft. W from SW cor. D. Wright tract, Juan Vargus Sur. .....Derrick.
M. T. Smith & Son's No. 1 T. O. Wright, center of 10-ac. Wiley lease in Juan Vargus Sur. .....Top sand 3,690 ft.; set csg.; T. D. 3,700 ft.
Sun Oil Co.'s No. 2 J. B. Henson, 200 ft. from N line and 285 ft. from W line of 216-ac. tract, Juan Vargus Sur. .....Drlg. 1,147 ft.
Sun Oil Co.'s No. 2 J. H. Lane, 580 ft. W of No. 1 Samuel Dexter Sur. .....Coring 3,660 ft.
Sun Oil Co.'s No. 2 J. J. Denton, 250 ft. from N line and 425 ft. from E line of tract in the Juan Vargus Sur. .....Building derrick.
The Texas Company's No. 3 Blackwell, 330 ft. from S and E. lines of 100-ac. tract in James Jordan Sur. .....Location.
The Texas Company's No. 1 J. W. Wilson, 350 ft. from W line and 600 ft. S of No. 1 D. Collins Sur. .....Preparing to spud.
The Texas Company's No. 2 J. W. Wilson, 527 ft. from most easterly W line and 350 ft. N of most southerly S line D. Collins Sur. .....Drlg. 1,452 ft.
Mrs. S. O. Thompson's No. 1 S. S. Cooke, center of 5-ac. tract and lease in James Jordan Sur. .....Top Austin 3,563 ft.
Tytex Oil Co.'s No. 1 Alex Weldert, 2,030 ft. from S and 525 ft. from E lines of Franklin T. Bodenheimer Sur. .....Derrick.
Vitex' No. 1 Irion, 150 ft. from S and E lines of 50-ac. tract in Mary Hughes Sur. .....Shut down 1,185 ft.
Yarber et al's No. 1 R. G. Wright .....Derrick.

TITUS COUNTY

H. V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. .....Shut down 1,410 ft.
Joiner et al's No. 1 Clayton Brown .....Shut down 2,250 ft.

UPSHUR COUNTY

Arcadia Refining Co/s No. 1 Victory, 3,200 ft. from W and 900 ft. from S lines of E. A. J. Evans Sur. ....Location.
Alma Petroleum Co.'s No. 1 J. W. L. Yount .....Rig up.
Barkley et al's No. 1 J. B. Webb, 330 ft. from SE cor. of 31-ac. lease on 76-ac. tract, G. W. Hooper Sur. ...Top Austin 3,636 ft.; set csg.
Cockrell et al's No. 1 C. A. Lee, 150 ft. from S and 150 ft. E of 36½-ac. tract, W. L. Palmer Sur. .....Derrick.
Callahan et al's No. 1 Lee R. Kay, 660 ft. from N and E lines of Charles O'Neal Sur. .....Derrick.
Calhoun et al's No. 1 J. R. Penn, 365 ft. from S line and E line of Penn 104-ac. tract, Joseph Manning Sur. .....Derrick.
Compton and Letts' No. 1 J. C. Wilsford, 300 ft. from E line and 2,700 ft. from S line of survey, L. Lomzollas Sur. .....Derrick.
Cole and Butler's No. 1 D. F. Guest, 300 ft. out of NE cor. of Guest 129-ac. tract and survey .....Derrick.
Daily Oil & Gas Co.'s No. 1 B. F. Phillips, 200 ft. out of SE cor. of 64-ac. tract, P. Whitestone Sur. .....Derrick.
Dumas et al's No. 1 A. O. Phillips, 150 ft. from N and 150 ft. from E of W 25.2-ac. of 75-ac. tract, S. Harrell Sur. .....Skid rig.
Glasscock et al's No. 1 C. C. Londers, 115 ft. from N and 130 ft. from E lines of 2.33-ac. tract in G. W. Hooper Sur. .....Location.
Home Oil Co.'s No. 1 F. D. Futrell, 150 ft. out of SW cor. and 520 ft. from E and 460 ft. from S line of 7.6-ac. tract, A. Lumbrara Sur., south of Gilmer .....Shut down 2,380 ft.
Humble Oil & Refining Co.'s No. 1 T. D. Smith, 1,956 ft. from S line and 330 ft. from W line of lease, Hayden Edwards Sur. .....Derrick.
Humble Oil & Refining Co.'s No. 1 E. O'Bern, 1,325 ft. W and 1,625 ft. N of SE cor. of 300-ac. tract in Jose Pineda Sur. .....Location.
Humble Oil & Refining Co.'s No. 1 M. Mattox, 200 ft. from S and E lines of 61.6-ac. tract in J. Pineda Sur. .....Location.
Humble Oil & Refining Co.'s No. 1 J. W. Smith, 200 ft. from N and E lines of 86.5-ac. tract in the J. Pineda Sur. .....Location.
J. A. Johnson's No. 1 J. T. Miller .....Derrick.
A. D. King's No. 1 Lloyd, 156 ft. from N line of survey and 288 ft. from E line of 4-ac. tract, D. Sanches Sur. .....Derrick.
Lotts Bros. et al's No. 1 C. B. Jones, 200 ft. from N and 165 ft. from E lines of 50-ac. tract in the Henry W. Augustine Sur. .....Location.
Magnolia Petroleum Co.'s No. 6 J. W. Free, 800 ft. from N and 355 ft. from E lines of Block 6, G. W. Hooper Sur. .....Location.
Murphy et al's No. 1 J. Watkins, 330 ft. from S and 250 ft. from W lines of 22-ac. lease in J. Pineda Sur. .....Set 10-in. csg. 130 ft.
Magnolia Petroleum Co.'s No. 5 J. W. Free, 384 ft. from N and 330 ft. from E lines of 28.16-ac. tract in the G. W. Hooper Sur. .....Coring 3,644 ft.
Mary Ellen Oil Co.'s No. 1 J. W. Davis, 375 ft. from N and 425 ft. from W line of 215-ac. tract in J. Burleson Sur. .....Location.
McPhail and Smith's No. 1 Kay, 660 ft. from S and 660 ft. from W line of J. Elliott Sur., 1½ miles S of Big Sandy .....Bailed dry; T. D. 3,655 ft.
G. P. Mitcham's No. 1 J. B. Bland, 165 ft. from E and 650 ft. from S of 62½-ac. tract and 15-ac. lease, G. W. Hooper Sur. .....Drlg. 2,921 ft.
W. H. Peckham's No. 1 J. B. Webb, 450 ft. from S line and 1,450 ft. from E line of tract, G. W. Hooper Sur. .....Drlg. 3,230 ft.
Smith Bros.' No. 1 J. W. Davis, 400 ft. from N and 800 ft. from W lines of S 200 acres of J. W. Davis 380-ac. tract in John Burleson Sur. .....Rigging up.
J. R. Smith's No. 1 J. B. Webb, 200 ft. N and 489 ft. W of SE cor. of W 20 acres of 71-ac. tract, G. W. Hooper Sur. .....Derrick.
Sorrels & Duffey's No. 1 J. W. Wooden, 200 ft. from E and 200 ft. S of survey, Isham Williams Sur. ....Shut down 1,445 ft.
Sun Oil Co.'s No. 1 Hargrove, 250 ft. from S and 330 ft. from E lines of 200-ac. tract in Marshall Mann Sur. .....Drlg. 2,300 ft.

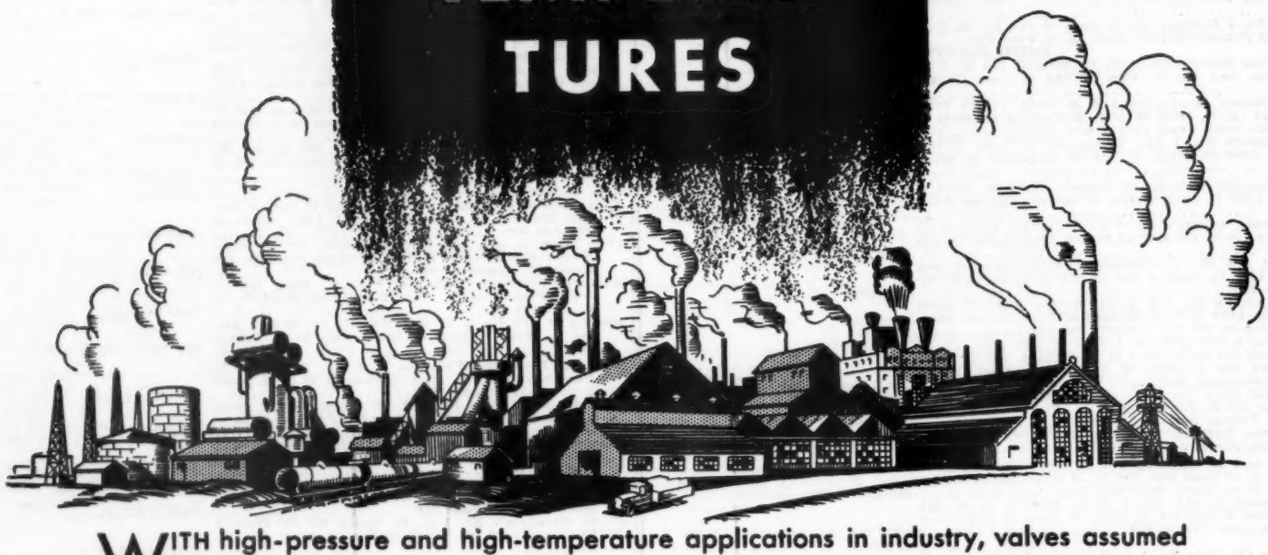
VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out off NE cor. of Hubbard 225-ac. tract, 3½ miles S of Canton, M. J. Cadena Sur. .....Spudded and shut down 300 ft.
Hart Petroleum Corp.'s No. 1 M. L. Cox, 1,785 ft. N of S line and 524 ft. E of W line of Cox 300-ac. tract in Nugent Headright Sur. .....Shut down 2,085 ft.
H. Helms et al's No. 1 Bogue, 647 ft. W and 155 ft. S of SE cor. of J. M. Brown 70-ac. in Marshall University Sur., SE of Van .....Dry and abandoned 3,098 ft.
Joiner et al's No. 1 J. S. Meeks, 330 ft. out of the NE cor. of the 330-ac. tract, A. Ducher Sur. .....Dry and abandoned 4,566 ft.
Humble Oil & Refining Co.'s No. 1 L. A. Dowdle, 1,027 ft. N of S line and 150 ft. E of W line, William Daniel Sur. .....Temp. abnd. 2,987 ft.
Kelly Oil & Gas Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. .....Shut down 2,590 ft.
Neil McMehory's No. 1 R. V. Murphy, 150 ft. from N and 150 ft. W of survey, H. Bailey Sur. .....Shut down 1,975 ft.
W. P. Palmer et al's No. 2 W. P. Forster, 600 ft. from N and 450 ft. from E of SW cor. of Forster 161-ac. tract in the F. Montgomery Sur. .....Shut down 3,000 ft.
W. A. Phillips et al's No. 1 Morris, 1,050 ft. S of N line and 350 ft. W of E line of center west of Norris 160-ac. tract in the C. L. Morris Headright Sur. .....Shut down 3,075 ft.
Pure Oil Co.'s No. 2 J. M. Martin, 675 ft. W of E lines and 225 ft. S of N line of lease, Mund Gross Sur...Drlg. 1,800 ft.
Pure Oil Co.'s No. 3 J. D. Miller, 314 ft. S of N line and 200 ft. W of E line of 60-ac. lease, John Walling Sur. .....Shut down 304 ft.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. .....Coring 2,850 ft.

WOOD COUNTY

Brennan and Wood's No. 1 L. W. Mings, 300 ft. from NW cor. of survey and tract, Moses Stripling Sur. ..Derrick.
Loche and Clack's No. 1 A. C. Pick, 165 ft. S of NE cor. G. C. Reeves 25-ac. tract, Daniel Fuller Sur. ....Shut down 2,008 ft.
Deep Rock Oil Co.'s No. 1 Maud Smith, center of Maud Smith S 40-ac. tract, L. Johnson Sur. .....Drlg. 4,408 ft.
Main Holding Co. and Thelma Wells' No. 1 Stewart, 1,938 ft. from NE and 2,898 ft. from E line of survey, E. Rehorse Sur. .....Shut down 600 ft.
Vitek Oil Co.'s No. 1 Rosa Boge), 250 ft. from N and 500 ft. from W of survey, Sarah English Sur. .....Shut down 2,760 ft.
M. O. Walmer Oil Co.'s No. 1 J. A. Ivey, center of 57-ac. tract, 2 miles NE of Mineola, A. Hamilton Sur...Coring 4,007 ft.
Wood County Oil & Gas Co.'s No. 1 Ivy Davis, 180 ft. from S line of 160-ac. tract, Sarah McDonald Sur. ..Derrick.
Wood County Investment Co.'s No. 1 Ross .....Derrick.
Wood County Development Co.'s No. 1 E. L. Pritchett ...Derrick.

HIGH PRESSURE VALVES AT ELEVATED TEMPERATURES



WITH high-pressure and high-temperature applications in industry, valves assumed greater importance. Accordingly the design, workmanship, and materials of Powell Cast Steel Valves are carefully considered in producing these high pressure valves for elevated temperatures

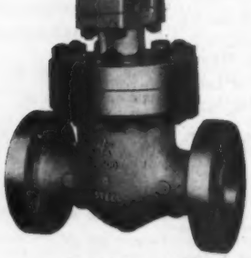


Fig. 1303—1500 Lb.
Cast Steel Gate Valve

Powell Cast Steel Globe, Angle, Check, Gate, and Safety Valves are made in strict accordance with the A. S. A. requirements and are tested to greater limits than the recommended working pressures to assure safety under abnormal conditions. Working steam pressures range from 150 to 1500 pounds at temperatures to 750°F.

Fig. 1331—1500 Lb.
Cast Steel Globe Valve

THE WM. POWELL CO.

2521-31 Spring Grove Avenue • CINCINNATI, OHIO

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55 EAST WACKER DRIVE

POWELL VALVES

Brief Items for Petroleum Refiners

Announce Program For Next Annual Safety Congress

During the week of October 12 to 16, many representatives of petroleum companies of the United States will meet at the Stevens Hotel in Chicago to conduct a co-operative program to consider practical ways and means for the reduction of accidents and accident costs in the petroleum industry.

This accident prevention program, as an important part of the Twentieth Annual Safety Congress and Exposition, will be conducted by the co-operative petroleum section of the National Safety Council. This program will be supplemented by other sessions of special interest to the industry, and especially those sessions that will consider the selection and training of truck drivers and the safety maintenance of trucks.

The petroleum section program will include three one-half day sessions and one luncheon session. At the first session, on Tuesday morning of Congress Week, General Chairman R. E. Donovan, Standard Oil Co. of California, will give a review of the activities of the petroleum section. J. W. Myers, chairman of the statistics committee, will report on "What Our Accident Records Show." There will be special addresses on "Preventing Accident in Making Bulk Deliveries" and "Accident Prevention at the Superservice Stations" by speakers to be announced.

At the Wednesday afternoon session, Walter B. Murphy, director of plant personnel, the Atlantic Refining Co. of Philadelphia, will discuss "Development and Use of Safety Codes in Refineries." Other subjects of addresses are "Safety in Refinery Construction Work" and "Refinery Safety Standards." Features of the Thursday morning session will be a talk on "Prevention of Oil Field Transportation Accidents" by H. E. Dischinger, installation department, Shell Petroleum Corp., St. Louis; and a talk on "Lessons Learned From Unusual Accidents" by Louis R. Hodell, safety engineer, Carter Oil Co., Tulsa, Okla. There also will be a talk on "Operating a Pipe Line Without Accidents." At the Thursday luncheon, J. I. Banash, vice president for finance, National Safety Council, will award certificates for the 1931 safety contest among petroleum organizations.

The officers of the petroleum section are as follows: General chairman, R. E. Donovan, Standard Oil Co. of California, San Francisco; vice chairman, D. J. Wallace, Mid-Continent Petroleum Safety Council, Tulsa, Okla.; chairman, Atlantic division, E. R. Alden, Vacuum Oil Co., New York City; chairman, Great Lakes division, J. C. Bernd, Sinclair Refining Co., East Chicago, Ind.; chairman, Mid-Continent division, H. W. Boggess, Sinclair Oil & Gas Co., Tulsa, Okla.; chairman, Gulf division, J. L. Risinger, Magnolia Petroleum Co., Beaumont, Tex.; chairman, Rocky Mountain division, D. J. Griffin, the Ohio Oil Co., Casper, Wyo.; chairman, Pacific division, C. P. Anderson, Richfield Oil Co., Los Angeles, Calif.; secretary, H. N. Blakeslee, American Petroleum Institute, Dallas, Tex.

GIVE REFINERY CONCESSION

It is reported that the provisional government of Rio Grande-do-Sul in Brazil has granted a concession for the construction of a refinery. The site selected is outside Rio Grande on the south side of strait leading to the Atlantic. The refinery, which is to be completed in 18 months, will have a capacity of 5,000 bbls. daily.

STERLING REFINERIES TO BUILD CANADIAN PLANT

CHATHAM, Ontario, Aug. 29.—Sterling Oil Refineries, Ltd., recently incorporated under Dominion charter with head office at Moose Jaw, Saskatchewan, is planning to construct a plant at that city. The plant, which is to be in operation by November 1, will be a modern tube still distillation unit, completely electrified and automatically controlled. It will be capable of handling 1,200 bbls. of crude per day. The cost is estimated at $185,000. The company intends to establish its own tank car system both for the handling of crude and for the distribution of refined products. Crude will be shipped from the Mid-Continent and adjacent fields.

Don J. Baize, who is superintending the construction, will be superintendent of operations when the plant is completed. The officers of the company are as follows: President, S. A. Hamilton; vice presidents, James Pascoe, and Hal Berry; secretary-treasurer, James Kennedy; managing director, L. D. Ohm.

TO BUY CUMBERLAND LINE

Stockholders of the Cumberland Pipe Line Co. will vote on September 15 to determine whether or not they will accept an offer of the Ashland Refining Co. of Kentucky to purchase the pipe line properties for a consideration of $420,000. The Cumberland line crosses the eastern part of Kentucky extending as far south as the Somerset Field. The Ashland company desires to use the line to furnish crude oil for its 4,000-bbl. refinery located at Leach, Ky. The Cumberland line connects to the Eureka Pipe Line of West Virginia.

Terms of the sale proposed call for payment of $60,000 in cash on consummation of the deal, expected October 1, with the balance payable in four installments of $90,000 each, spread over five years.

W. W. RICE RESIGNS

CHICAGO, Aug. 29.—R. W. Crawford, formerly manager of the Omaha division of Barnsdall Refineries, Inc., has been appointed manager of the Chicago division offices. He succeeds W. W. Rice, who resigned last week.

CITIES SERVICE BUYS LINDSAY-McMILLAN CO.

MILWAUKEE, Wis., Sept. 1.—Cities Service Co. announces its acquisition of the Lindsay-McMillan Co. of Milwaukee, Wis. The newly acquired company has widespread gasoline distribution in Milwaukee and surrounding territory, through more than 100 service stations and dealers. Bulk storage plants are located at Milwaukee, West Allis and Waukesha, Wis.; and at Calumet, Mich., for distribution in the copper country. No price was mentioned in connection with the purchase.

Previously, Cities Service Co., through its subsidiaries, Cities Service Oil Co., Interstate Oil Co., C. H. Lockwood Oil Co. and Winona Oil Co., had wholesale and retail distribution throughout Wisconsin, except in the Milwaukee area.

The Lindsay-McMillan Co. will operate as an independent unit in the Cities Service organization under the same management and personnel. It will continue to manufacture Delco Oil Products for the industrial trade, and distribute Delco benzol and Delco motor oils, as well as a full line of Cities Service petroleum products.

In addition to its facilities for marketing oil and gasoline, the Lindsay-McMillan Co. operates two factories located at Milwaukee, Wis., and Savannah, Ga. The Milwaukee plant manufactures industrial and automotive oil products. The Savannah, Ga., plant refines rosin in liquid form for use by the foundry trade.

ASHLAND OFFERED PIPE LINE

NEW YORK, Sept. 1.—Stockholders of Cumberland Pipe Line Co. will meet at Winchester, Ky., on September 15 to vote on sale of the company to Ashland Refining Co., of Ashland, Ky., for $420,000. Upon approval of the sale, directors of Cumberland will recommend to stockholders the liquidation and ultimate dissolution of the company.

"THIRD GRADE" UNLIKELY

CHATHAM, Ontario, Aug. 29.—Statements by representatives of leading Canadian refining companies indicate that it is unlikely they will introduce a "third grade" gasoline to meet the competition of cut-price or "bootleg" gasoline now being offered on a small scale in Toronto.

EAST COAST TO RECEIVE CALIFORNIA GASOLINE

NEW YORK, Sept. 1.—Eastern gasoline marketers have been extremely active in the California market during the past week, and have booked gasoline cargoes aggregating between 1,200,000 and 1,500,000 bbls. for September and October shipment eastward. Laid-down prices of the gasoline involved in these contracts ranges from 4¾ to 5⅛ cents per gallon, New York and Philadelphia.

Standard Oil Co. of California, Richfield Oil Co. of California, Associated Oil and Union Oil Co. are the principal sellers, according to reports here, but definite details regarding the buyers of this motor fuel are not available. It is believed, however, that most of the principal distributors here have turned to cheap California gasoline as a "stop-gas," pending further developments in the crude production situation in the Mid-Continent area.

Total stocks of gasoline held by California refiners as of August 22 amounted to 11,437,000 bbls., making up more than one-third of the total inventories of 34,068,000 bbls. for the entire United States as of that date. The present situation in the Mid-Continent offers Pacific Coast refiners an ideal opportunity for the further liquidation of their gasoline surplus at fairly favorable prices and this development is expected to further aid in stabilization of the domestic gasoline situation.

A large part of the California gasoline purchased by eastern interests, it is reported, will come in through Baltimore, Philadelphia and New York, with some going to Boston and smaller quantities possibly to South Atlantic markets.

COMPLETE SINCLAIR EXPANSION

HOUSTON, Tex., Aug. 29.—Sinclair Refining Co. is nearing completion on a $4,000,000 building and expansion program which has been under way at its plant here for over a year. The additions have increased the capacity of the plant to such an extent that as much as 70,000 to 75,000 bbls. of crude could be run daily if necessary.

Construction at the plant has included a new treating plant, three DeFlorez pipe stills, a Badger unit, a Foster Wheeler debutanizer and stabilizer, a Braun cooling tower and pump house, together with additional storage consisting of six 80,000 bbl. tanks and nine tanks ranging from 1,000 to 15,000 bbls. each, and two 600-bbl., 1,200-horsepower boilers and other minor equipment. With the new units in operation some of the old still batteries and other equipment will be junked.

The Sinclair company is getting ready to rebuild the plant at Fort Worth, Tex., which it acquired last year from the Pierce Petroleum Corp. The plant has been shut down for 10 years.

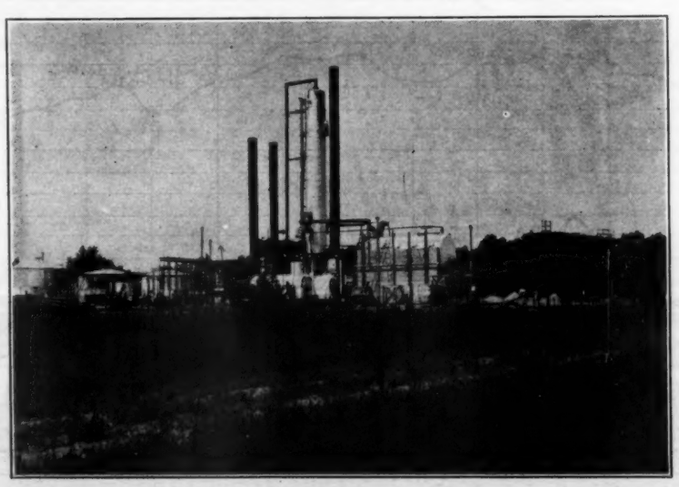
NOT TO BUILD PLANT

Plans of the Allegany Refiners, Inc., to build a refinery at Bolivar, N. Y., have been dropped for the present, according to officials of the company. The company has planned to build a 500-bbl. lubricating oil plant to operate with Pennsylvania Grade crude oil.

BUILD LONG BEACH PLANT

The Nicholson Refining Co. has announced plans to build a skimming plant at Long Beach, Calif. The plant will have a small capacity. Thomas T. Nicholson is president of the company.

ANOTHER NEW EAST TEXAS REFINERY



Sinclair Refining Co.'s 2,000-bbl. plant under construction at Camps Switch, Gregg County.

Manufacture of Natural Gasoline

Natural Gasoline Prices Quick to Show Improvement

The sharp upward swing of the price curve on natural gasoline shortly after August 1 seems to have foretold the improved conditions coming in both the refinery and crude oil markets. In addition, many conclude that at the present level of refined oil prices, a general increase in service station prices is inevitable.

In the accompanying graph the close relationship that exists among the various markets may be traced in a general way but it is not difficult to find conflicting trends when studying the price curves of the different commodities over a short period.

Of greatest interest probably is the relationship between the Oklahoma Grade AA price and the 58-60 U. S. Motor refinery price. Ever since May 1, 1929, the natural price has remained under the U. S. Motor price until now. It is a matter of conjecture as to what the case will be in the future but because of the marked recovery in the natural market, it is apparent that natural prices will respond to improvements in the oil industry as rapidly as the refinery gasoline price. This is especially likely in as much as East Texas refiners may offer strong competition on refinery gasolines. Another interesting fact shown by the graph is the narrow margin that existed between the AA natural gasoline price and the posted price for 36 gravity Mid-Continent crude.

At the close of April natural prices were at their lowest level and practically touched the level of crude prices at that time. Then the natural market strengthened slightly despite the adverse developments in the crude market.

The accompanying curve is of interest also in showing graphically the price relationship between natural gasoline and the retail filling station price for gasoline. The natural price is the low published weekly by The Oil and Gas Journal and applies to the Mid-Continent area only. The service station prices represent the average of station prices existing in 50 scattered cities in the United States as of the first of each month. Those natural gasoline companies which have entered into the retail marketing of their products have not witnessed any greater falling off in the per gallons price for their products at the station than at the plant.

VAPOR PRESSURE LIMIT INCLUDED IN NEW AVIATION SPECIFICATIONS

By including a vapor pressure specification and with no modification in the acid residue specification, the proposed revision in the specifications for the fighting and domestic grades of government aviation gasoline will place a handicap in the sale of fuels made from natural gasoline. At the present time Dr. George K. Burgess, chairman of the Federal Specifications Board, is asking those interested in the revisions to submit their views to him within the next nine weeks so that any further changes or modifications may be considered before final action is taken.

The new fighting grade specifications include a gum specification and a general change in the distillation specifications, due principally to the fact the reporting of the temperature corresponds to the volume of gasoline distilling off and not the volume collected in the receiver as in the case of the present specifications. This change conforms with a similar change made recently in the U. S. M. gasoline specifications.

The following revisions are being considered:

Corrosion Test—Method 530.1. One hundred millimeters of the gasoline evaporated in a polished copper dish shall cause no gray nor black corrosion.

Gum—The gasoline shall be subjected to an accelerated aging test at 100° C. (212° F.) with oxygen at approximately 100 pounds pressure for four hours, and on evaporation of 100 m.m. of a mixture of oxidized sample and gum solvent, the amount of residue shall not exceed 10 m.g.

The apparatus and procedure to be used for the accelerated gumming tests is the well-known test that now forms a part of Army Specifications Y-3559-A and Y-3557-B, and Navy Specification 7-G-3.

Distillation Range—Method A.S.T.M.-D86-30. When the thermometer reads 65° C. (149° F.) not less than 10 per cent shall be evaporated.

When the thermometer reads 100° C. (212° F.) not less than 50 per cent shall be evaporated.

When the thermometer reads 135° C. (275° F.) not less than 90 per cent shall be evaporated.

The residue shall not exceed 2 per cent.

Per cent evaporated shall be found by adding the distillation loss to the amount collected in the receiver at each specification temperature.

Vapor Pressure — Method A.S.T.M.—D323-30T. The vapor pressure at 37.8° C. (100° F.) shall not exceed 10 pounds per square inch; except that for use in airplanes or similar equipment not adequately protected from vapor lock, the vapor pressure shall not exceed 7 pounds per square inch. Note: Adequate protection from vapor lock requires either submerged fuel pump remote from the engine; gravity feed which will maintain a head of at least 1.5 pounds per square inch notwithstanding vaporization of the fuel; or other fuel system giving equal protection.

Freezing Point—The freezing point as indicated by the initial formation of solid rather than by the cloud point shall not be higher than —60° C. (—76° F.).

Acidity—Method 510.2. The residue remaining in the flask after the distillation is completed shall not show an acid reaction.

Under the present specification for this grade of gasoline the Government requires that the gasoline show a negative doctor test. This has been dropped in the new. The present specifications also provide that:

When 5 per cent of the sample has been recovered in the graduated receiver, the thermometer shall not read more than 65° C. (149° F.) or less than 50° C. (122° F.).

When 50 per cent has been recovered in the receiver, the thermometer shall not read more than 95° C. (203° F.).

When 90 per cent has been recovered in the receiver, the thermometer shall not read more than 125° C. (257° F.).

When 96 per cent has been recovered in the receiver, the thermometer shall not read more than 150° C. (302° F.).

The endpoint shall not be higher than 165° C. (329° F.).

At least 96 per cent shall be recovered as distillate in the receiver from the distillation.

The distillation loss shall not exceed 2 per cent when the residue in the flask is cooled and added to the distillate in the receiver.

Changes of a similar nature are being suggested in the domestic grade of aviation gasoline and the following tentative provisions are outlined in the announcement of Doctor Burgess:

Corrosion Test—Method 530.1. One hundred millimeters of the gasoline evaporated in a polished copper dish shall cause no gray nor black corrosion.

Gum—The gasoline shall be subjected to an accelerated aging test at 100° C. (212° F.) with oxygen at approximately 100 pounds pressure for four hours, and on evaporation of 100 m.m. of a mixture of oxidized sample and gum solvent, the amount of residue shall not exceed 10 m.g.

Distillation Range—Method A.S.T.M.-D86-30. When the thermometer reads 70°

(Continued on Page 103)

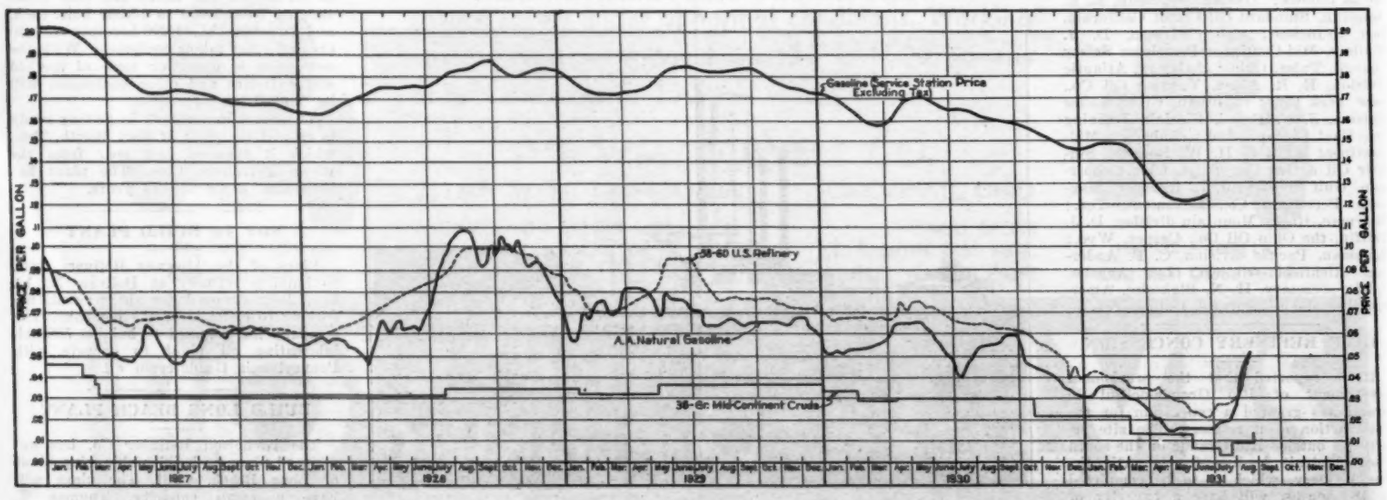
JOINT TESTING CODE LIKELY TO BE REVISED

The revision of the code for determining the gasoline content natural gas has been suggested by the Natural Gasoline Association of America and an investigation of revisions proposed has been placed in the hands of a subcommittee of the main technical committee for the research division of the American Gas Association. A joint code has been in use among the members of these two associations and has been helpful in arriving at a common understanding on those factors incident to the buying and selling of wet and dry natural gas.

The principal revision suggested is to drop the absorption method for determining the gasoline content of wet gas. If this method is finally dropped the compression method and the charcoal method will be the only ones to be recognized. The compression method is generally used on gas having a gasoline content of 1 gallon or more per thousand and the charcoal method is used only in those cases where the gas is comparatively dry.

PHILLIPS BUILDING NEW LINE AND LOADING RACK

The Phillips Petroleum Co. will build a 23-mile pipe line from its plant in the Church-Field Pool in McCamey County Texas, to the Santa Fe Railroad siding in the town of McCamey. A loading rack will be built to permit the loading of natural gasoline into tank cars. In the past the Phillips company has been shipping all of the production from this plant through the Humble Pipe Line Co.'s crude line to the Humble's refineries. A 3-inch welded line will be laid from the gasoline plant to the rack and will thus enable the company to distribute its products eastward.



Graph showing the trend of prices on various commodities in Oklahoma, over the past five years.

PETROLEUM REFINERIES

Complete design and construction ready for operation of modern refinery plant and equipment embodying the fundamental principles of profitable refining —

Flexibility and Sustained Operation — as the result of adequate design and dependable construction.

High Yields — resulting from improved processes and precise fractionation.

Low Operating Costs — because of efficient basic design.

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Deferred Obsolescence — through anticipation of future developments and demands.

THE LUMMUS CO.

Builders of Petroleum Plants

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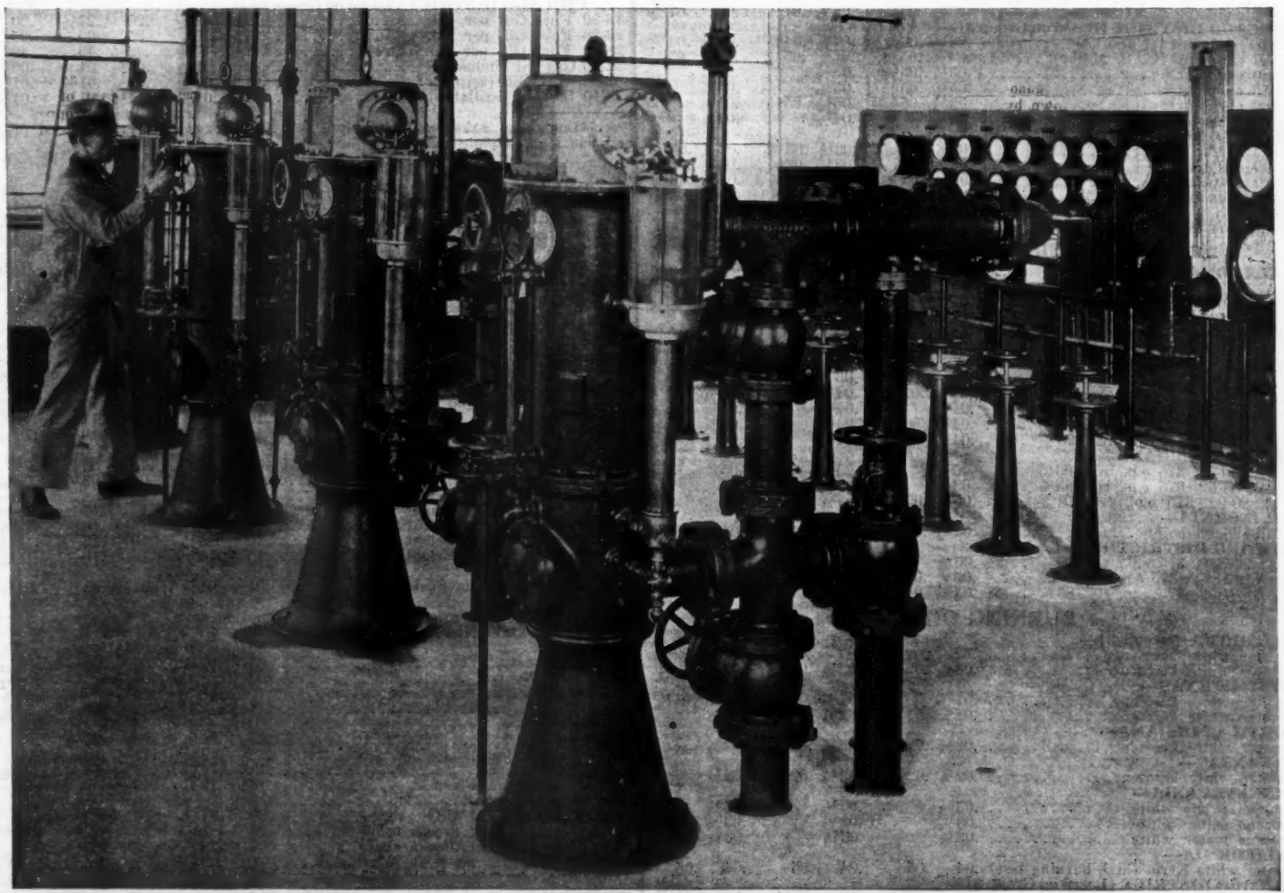


LUMMUS PETROLEUM REFINING PLANTS

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	Sept. 1		Aug. 25		Aug. 18	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.04½		.04½	.04¾	.04½	
56-58 450 endpoint	.04½	.04¾	.04¾	.05	.04½	
58-60 437 endpoint (U. S. Motor)	.04¾	.05¼	.05	.05¼	.04¾	.05
60-62 437 endpoint	.05	.05¼	.05	.05¼	.04¾	.05
60-62 400 endpoint	.05⅛	.05⅜	.05⅛	.05¼	.05	.05⅛
64-66 375 endpoint	.05¼	.05½	.05⅜	.05½	.05¼	
68-70 360 endpoint	.05½	.05¾	.05½	.05¾	.05⅜	
64-66 437 endpoint (blend)	.04½	.04¾	.04½	.04¾	.04¼	.04½
NORTH TEXAS—						
50-52 450 endpoint	.04½		.04¾		.04½	
58-60 450 endpoint	.04½	.04¾	.04¾		.04½	
58-60 437 endpoint (U. S. Motor)	.04⅞	.05	.05		.04¾	.05
60-62 400 endpoint	.05	.05⅛	.05⅛		.05	
64-66 390 endpoint	.05⅛	.05¼	.05¼		.05⅛	
64-66 375 endpoint	.05⅜		.05⅜		.05¼	
68-70 360 endpoint	.05½		.05½		.05⅜	
64-66 437 endpoint (blend)	.04⅝	.04¾	.04¾		.04½	
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.05¼	.05⅜	.05¼	.05½	.04¾	.05
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.05¼	.05⅜	.05¼	.05½	.04¾	.05
PENNSYLVANIA—						
52-54 Naphtha	.05		.04½		.04½	
54-56 Naphtha	.05		.04½		.04½	
58-60 Gasoline	.05¾		.05		.04¾	.05
60 Gasoline	.05¾		.05		.04⅞	.05
62 Gasoline	.05¾		.05¼		.05¼	
64 Gasoline	.05⅞	.06	.05½		.05½	
68-70 350 endpoint gasoline	.06¼	.06½	.05¾		.05¾	
CALIFORNIA—						
†54-58 437 endpoint (U. S. Motor) domestic	.05½	.06¾	.05¼	.07	.05¾	.07½
58-60 400 endpoint domestic gasoline	.05¾	.07¼	.05½	.07¼	.06	.07½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.04½	.04¾	.04½	.04¾	.04¼	.04½
58-60 437 endpoint (U. S. Motor)	.04⅞	.05⅛	.05	.05¼	.04¾	.05
60-62 400 endpoint	.05¼	.05½	.05⅛		.05	
64-66 375 endpoint	.05½	.05¾	.05½		.05¼	
68-70 360 endpoint	.05½	.05⅝	.05½	.05⅝	.05⅜	
64-66 437 endpoint (blend)	.04½		.04½		.04¼	
GULF COAST (Export)—						
58-60 U. S. Motor	.03¼	.03½	.03¼	.03½	.03¼	.03½
60-62 400 endpoint	.03½	.03⅝	.03½	.03⅝	.03½	.03⅝
61-63 390 endpoint	.03⅝	.03¾	.03⅝	.03¾	.03⅝	.03¾
64-66 375 endpoint	.03⅝	.03¾	.03⅝	.03¾	.03⅝	.03¾

*Louisiana, Arkansas and Mississippi delivery. †For Pacific Coast consumption.

NATURAL GASOLINE

	Sept. 1		Aug. 25		Aug. 18	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¼		.05¼		.05	.05¼
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05		.05	.05¼	.05	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04⅞		.05		.05	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¾		.05		.05	
Grade C, 80-92, 375 e.p., rec. 78%	.04¾		.05		.05	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05	.05¼	.05	.05⅛	.04¾	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¾	.05	.04¾		.04¾	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04¾		.04¾		.04¾	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¾		.04¾		.04¾	
Grade C, 80-92, 375 e.p., rec. 78%	.04¾		.04¾		.04¾	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.05¼		.05¼		.05	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼		.05¼		.05	
Grade C, 80-92, 375 e.p., rec. 78%	.05⅛	.05¼	.05¼		.05	
CALIFORNIA—						
75-78 375-390 endpoint	.04½	.05¼	.04¼	.05¼	.04½	.05½
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¼		.05¼	.05⅜	.05	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05	.05⅛	.05¼		.05	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¾	.04⅞	.05¼		.05	

BURNING OIL

	Sept. 1		Aug. 25		Aug. 18	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.02	.02⅛	.02	.02⅛	.01⅞	.02⅛
42-44 water white kerosene	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02¼
NORTH TEXAS—						
41-43 water white kerosene	.01⅞	.02	.01⅞	.02	.01¾	.01⅞
40-41 water white kerosene	.01¾	.01⅞	.01¾	.01⅞	.01¾	
***NORTH LOUISIANA—**						
41-43 water white kerosene	.02¼	.02⅜	.02¼	.02⅜	.02¼	
***ARKANSAS—**						
41-43 water white kerosene	.02¼	.02⅜	.02¼	.02⅜	.02¼	
PENNSYLVANIA—						
43 Kerosene prime white	.03⅝		.03⅝		.03⅝	
45 Kerosene water white	.03½		.03½		.03⅜	.03½
46 Kerosene water white	.03⅞		.03⅞		.03¾	.03⅞
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.04	.05	.04	.05	.04	.05
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.02	.02½	.02	.02½	.02	
42-44 water white kerosene	.02⅛	.02¼	.02⅛	.02¼	.02⅛	
GULF COAST (Export)—						
41-43 prime white	.03½		.03½		.03½	
44 prime white	.03½	.03¾	.03½	.03¾	.03½	.03¾

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	Sept. 1		Aug. 25		Aug. 18	
OKLAHOMA (Group 3)—						
Below 18 gravity Fuel Oil, per bbl.	.22½	.30	.22½	.30	.20	.30
18-22 Fuel Oil, per bbl.	.25	.30	.25	.30	.25	.30
20-22 Fuel Oil, per bbl.	.25	.30	.25	.30	.25	.30
22-26 Fuel Oil, per bbl.	.27½	.32½	.27½	.32½	.25	.30
24-26 Fuel Oil, per bbl.	.32½	.37½	.32½	.37½	.30	.35
26-30 Fuel Oil, per bbl.	.40	.45	.40	.45	.40	.45
28-30 Fuel Oil, per bbl.	.40	.45	.40	.45	.40	.45
32-36 Gas Oil (industrial)	.01	.01⅛	.01	.01⅛	.00¾	.00⅞
32-36 Gas Oil (straw color, high cold test)	.01	.01⅛	.01	.01⅛	.00¾	.00⅞
32-36 Gas Oil (straw color, low cold test)	.01¼	.01⅜	.01¼	.01⅜	.01¼	.01⅜
36-38 Distillate	.01⅜	.01½	.01⅜	.01½	.01¼	.01⅜
38-40 Straw Distillate	.01⅜	.01⅝	.01⅜	.01⅝	.01⅜	.01⅝

Note—Fuel oils over 40 cold test generally 5 to 10 cents per barrel less.

NORTH TEXAS—						
Below 20 gravity Fuel Oil, per bbl.	.20	.25	.20	.25	.20	.25
24-26 Fuel Oil, per bbl.	.25	.30	.25	.30	.25	.30
32-36 Gas Oil (industrial)	.00⅞	.01	.00⅞	.01	.00⅝	.00¾
38-40 Straw Distillate	.01¼	.01⅜	.01¼	.01⅜	.01⅛	.01¼
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.45	.55	.45	.55	.45	.55
30-32 Gas Oil (low cold test)	.01½	.01¾	.01½	.01¾	.01½	.01¾
***ARKANSAS—**						
33-36 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
30-32 Gas Oil	.01½	.01¾	.01½	.01¾	.01½	.01¾
16-22 Refinery Fuel Oil, per bbl.	.45	.50	.45	.50	.45	.50
GULF COAST (South Texas)—						
Gas Oil	.02½	.02¾	.02½	.02¾	.02⅛	.02⅜
Bunker C Fuel (cargo lots), per bbl.	.45	.50	.45	.50	.45	.50
Bunker C Fuel (small lots)	.55		.55		.55	
PENNSYLVANIA—						
30-34 Fuel Oil	.02¾	.03	.02½		.02½	
36-40 Fuel Oil	.03		.02¾		.02½	
CALIFORNIA—						
42-45 480 endpoint engine distillate	.05½	.06½	.05½	.06½	.05½	.06½
15-19 Fuel Oil, Bunker (at tidewater), bbl.	.60	.80	.60	.80	.60	.80
15-19 Fuel Oil (cargo lots, at tidewater), bbl.	.55	.75	.55	.75	.55	.75
†15-19 Fuel Oil (f.o.b. tank cars), bbl.	.45	.75	.45	.75	.45	.75
27 plus Diesel, per bbl.	.70	.95	.70	.95	.70	.95
30-34 Gas Oil	.70	.95	.70	.95	.75	1.00
CHICAGO DISTRICT (Based on Group 3)—						
18-22 Fuel Oil, per bbl.	.22½	.27½	.20	.27½	.20	.27½
22-26 Fuel Oil, per bbl.	.27½	.30	.25	.30	.25	.30
28-30 Fuel Oil, per bbl. (zero)	.42½	.47½	.42½	.45	.40	.45
32-36 Gas Oil (industrial)	.01	.01½	.00⅞	.01	.00⅝	.00⅞
32-36 Gas Oil (zero)	.01¼	.01½	.01¼	.01⅜	.01⅛	.01¼
38-40 Straw Distillate	.01⅜	.01⅝	.01¼	.01½	.01⅛	.01⅜

*Louisiana, Arkansas, Mississippi and East Texas delivery. †Lowest priced fuel oil has high sulphur content.

LUBRICATING OIL AND WAX

	Sept. 1		Aug. 25		Aug. 18	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.04	.04½	.04	.04½	.04	.04½
100 vis., 3 color, 20-25 cold test	.03¾	.04	.03¾	.04	.03¾	.04
150 vis., 3 color, 20-25 cold test	.06¼	.06¾	.06¼	.06¾	.06¼	.06¾
150 vis., 4 color, 20-25 cold test	.05¾	.06	.05¾	.06	.05¾	.06
180 vis., 3 color, 23-28 cold test	.07¾	.08¼	.07¾	.08¼	.07¾	.08¼
180 vis., 4 color, 23-28 cold test	.07¼	.07¾	.07¼	.07¾	.07¼	.07¾
180 vis., 5 color, 23-28 cold test	.07	.07¼	.07	.07¼	.07	.07¼
200 vis., 3 color, 23-28 cold test	.08½	.09	.08½	.09	.08½	.09
200 vis., 4 color, 23-28 cold test	.08¼	.08¾	.08¼	.08¾	.08¼	.08¾
200 vis., 5 color, 23-28 cold test	.07¾	.08	.07¾	.08	.07¾	.08
240 vis., 3 color, 25-30 cold test	.10¼	.10¾	.10¼	.10¾	.10½	.10¾
240 vis., 4 color, 25-30 cold test	.09½	.10	.09½	.10	.09½	.10
240 vis., 5 color, 25-30 cold test	.09	.09½	.09	.09½	.09	.09½
280 vis., 3 color, 25-30 cold test	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
280 vis., 4 color, 25-30 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼
280 vis., 5 color, 25-30 cold test	.10¼	.10½	.10¼	.10½	.10¼	.10½
Cylinder Stocks:						
600, steam refined, light green	.04	.06	.04	.06	.04	.06
600, steam refined, dark green	.03½	.04½	.03	.03½	.02½	.03
190-200 vis., D color, Bright Stocks	.19		.19		.17	
150-160 vis., D color, Bright Stocks 0-10 c.t.	.17		.16	.17	.14	.15
150-160 vis., D color, Bright Stocks 10-25 c.t.	.16½		.15½	.16½	.13½	.14½
150-160 vis., D color, Bright Stocks 25-40 c.t.	.16	.16½	.15	.16	.13½	.14¼
150-160 vis., E color, Bright Stocks	.15½	.16	.15	.16	.13½	.14
Waxes:						
124-126 White Crude Scale Wax	.01⅝	.01⅞	.01⅝	.01¾	.01½	.01¾

All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.05½		.05½		.05½	
34 Sundebloom	.05	.05½	.05	.05½	.05½	
36 Miners' Neutral	.05½		.05½		.05½	
150, 3 color	.15½	.16	.15½		.15¼	.15½
180, 3 color	.17¾	.18	.17¾	.18	.17¾	.18
200, 3 color	.20		.20		.20	
220, 3 color	.22	.26½	.22	.26½	.22	.26½
600, steam refined	.12	.13	.11½	.12	.11	.11½
650, steam refined	.13½	.14½	.13½	.14	.12½	.13
600, Pennsylvania Flash	.18½	.19	.16		.14	
600, E filtered	.18		.16		.16	.16½
600, D filtered, Oil City	.20	.21	.20		.19	
Pennsylvania Bright Stocks below 35 c.t.	.28		.26		.25	
Pennsylvania Bright Stocks above 35 c.t.	.27½	.28	.25	.26	.25	
*122-124 White Crude Scale Wax	.019	.02	.019	.02	.019	.02
*124-126 White Crude Scale Wax	.019		.019		.019	.02

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.05½	.05¾	.05½	.05¾	.05¾	.05½
200 vis., 3 color, pale oil	.07½	.07⅞	.07½	.07⅞	.07⅞	.07⅞
300 vis., 3 color, pale oil	.08¾	.08⅞	.08¾	.08⅞	.08⅝	.08⅞
500 vis., 3½ color, pale oil	.09⅞	.10⅜	.09⅞	.10⅜	.09⅞	.10⅜
750 vis., 3½ color, pale oil	.11⅝	.11⅞	.11⅝	.11⅞	.11⅜	.11⅞
1,200 vis., 3½ color, pale oil	.13⅞	.14⅜	.13⅞	.14⅜	.13⅞	.14⅜
2,000 vis., 4 color, pale oil	.14⅞	.15⅜	.14⅞	.15⅜	.14⅞	.15⅜
200 vis., 5-6 color, red oil	.06¾	.06⅞	.06¾	.06⅞	.06⅝	.06⅞
300 vis., 5-6 color, red oil	.07⅞	.08⅜	.07⅞	.08⅜	.07⅞	.08⅜
500 vis., 5-6 color, red oil	.09½	.09⅝	.09½	.09⅝	.09⅜	.09⅝
1,200 vis., 5-6 color, red oil	.12⅞	.13⅜	.12⅞	.13⅜	.12⅞	.13⅜
2,000 vis., 6 plus color	.14⅞	.15⅜	.14⅞	.15⅜	.14⅞	.15⅜
CALIFORNIA—						
130 vis., 2½-3 color	.08	.08½	.08	.08½	.08	.08½

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

200 vis., 2½-3 color	.09	.10	.09	.10	.09	.10
300 vis., 3-3½ color	.10	.11	.10	.11	.10	.11
350 vis., 3½-4 color	.11	.12	.11	.12	.11	.12
450 vis., 3½-4 color	.12	.12½	.12	.12½	.12	.12½
550 vis., 3½-4 color	.12½	.13¼	.12½	.13¼	.12½	.13¼
Red Neutral:						
200 vis., 4½-5 color	.09½	.10	.09½	.10	.09½	.10
300 vis., 5-6 color	.10¼	.10¾	.10¼	.10¾	.10¼	.10¾
500 vis., 4½-5 color	.12¼	.13	.12¼	.13	.12¼	.13
600 vis., 6½ plus color	.13	.13½	.13	.13½	.13	.13½
700 vis., 6½ plus color	.14	.15	.14	.15	.14	.15

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Sept. 1		Aug. 25		Aug. 18	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.05½	.06	.05⅝	.06	.05⅝	.06
Kerosene, water white, 41-43	.04¾		.04¾		.04¾	
*Fuel Oil, Bunker "C," 41-43	.70		.70		.70	
†Fuel Oil, Diesel, 28-30, per bbl.	1.40		1.40		1.40	
Gas Oil, 28 gravity plus	.04		.04		.04	
25 pale Paraffin Oil, tank car	.10¼		.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Domestic heating oil, min. 32 grav., tank car	.04		.04		.04	
Refined Wax:						
120-122 a.m.p., per lb.	.03		.03		.03	
125-127 a.m.p., per lb.	.03⅛		.03⅛		.03⅛	
130-132 a.m.p., per lb.	.03⅝		.03⅝		.03⅝	
133-135 a.m.p., per lb.	.04⅛		.04⅛		.04⅛	
135-137 a.m.p., per lb.	.04⅝		.04⅝		.04⅝	
Petrolatum in barrels in carload lots, per pound:						
Dark Green	.01⅝		.01⅝		.01⅝	
Amber	.02⅛		.02⅛		.02⅛	
Extra Amber	.02⅞		.02⅞		.02⅞	
Cream	.05⅛		.05⅛		.05⅛	
Lily White	.06½		.06½		.06½	
Snow White	.07		.07		.07	

*Lighterage 5 cents a barrel extra. †Lighterage 6.5 cents a barrel.

NEW YORK (BAYONNE) EXPORT PRICES

	Sept. 1		Aug. 25		Aug. 18	
600, steam refined cylinder stocks, in bbls.	.17½	.18	.17½	.18	.17½	.18
635, steam refined	.19	.20	.19	.20	.19	.20
650, steam refined	.20	.21	.20	.21	.20	.21
600, Pennsylvania Flash	.22	.23	.22	.23	.22	.23
630, Pennsylvania Flash	.27¾	.28	.27¾	.28	.27¾	.28
600, Warren E	.22	.23	.22	.23	.22	.23
600, Oil City E	.21	.22	.21	.22	.21	.22
Light 140-150 Bright Stocks	.30	.33	.30	.33	.30	.33
Dark 140-150 Bright Stocks	.29	.31	.29	.31	.29	.31

LOS ANGELES EXPORT PRICES

	Sept. 1		Aug. 25		Aug. 18	
Kerosene, water white	.04	.04¾	.04	.05	.03¾	.05
U. S. Motor gasoline, 53-55, 437 e.p.	.03½	.04	.03¾	.04½	.04	.05
58-60, 400 endpoint gasoline	.03¾	.04¼	.04	.04¾	.04¼	.05¼

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

East Texas (Aug. 22, 1931)† ..... $ .68
Rusk County, Tex. (April 6, 1931)* ..... .25
Corsicana heavy (Aug. 22, 1931)† ..... .34
Other fields ..... See gravity table

*Posted by Panola Pipe Line Co. †Posted by Magnolia Petroleum Co.; Stanolind Oil & Gas Co., June 25.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties. See gravity table

WEST TEXAS

Iatan and Westbrook. Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Ector, Winkler and Pecos Counties* ..... $ .35
Lea County, N. Mex.* ..... .35
Toborg, Pecos County, Aug. 25, 1931† ..... .25

*The Texas Company, August 22, 1931. All other companies, August 22. †Shell Petroleum Corp.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective August 29, 1931)

Penna Grade Oil in National Transit Lines (Pennsylvania) $1.30
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.65
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia) 1.55
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) 1.40
Corning Grade Oil in Buckeye Pipe Line Co.'s Line, Sept. 1, 1931 ..... .70
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931) ..... .60
Wayne district Oil in Cumberland Pipe Lines (April 23, 1931) 1.17

Tide Water Pipe Co.
(Effective August 29, 1931)

Bradford, Pa., crude $2.10
Allegany, N. Y., crude 2.10

Pure Oil Co.
(Effective August 29, 1931)

Cabin Creek, W. Va. $1.55
Kelly's Creek, W. Va. 1.55
Bradford Hollow, W. Va. 1.55

GULF COAST

Grade A and Grade B classifications discontinued by leading buyers ..... See gravity table
Jennings, La. (Aug. 22, 1931)* ..... $ .50
Lockport, La. (Aug. 27, 1931)† ..... See Gulf Coast gravity table
Refugio light ..... See gravity table
Refugio heavy (Aug. 22, 1931)‡ ..... .60
Markham (Aug. 22, 1931)§ ..... .52
..... See Gulf Coast gravity table
High Island (Aug. 22, 1931)¶ ..... .50

*Gulf Refining Co. †Vacuum Oil Co. ‡Humble Oil & Refining Co. §The Texas Company. Other companies July 24. ¶Gulf Pipe Line Co.

NORTH LOUISIANA AND ARKANSAS

Smackover, Ark. (all grades) See note below
Urbana, Ark. ..... See note below
Bellevue, La. (June 3, 1931) ..... $ .25
Urania, La. (Aug. 24, 1931) ..... .40
Calion, Ark. (Aug. 22, 1931) ..... .52
East El Dorado, Ark. (Aug. 22, 1931) .. .45
Stephens, Ark., below 29° (August 24, 1931) ..... .41
Stephens, Ark., 29° and above (August 24, 1931) ..... .44
Other fields ..... (See gravity table)

Note—Smackover, all grades, The Texas Company, August 22, 1931, 52 cents; Gulf Refining Co., August 22, 45 cents; Magnolia Petroleum Co. and Standard Oil of Louisiana, August 24, 45 cents. Urbana posting discontinued by Standard Oil Co. of Louisiana on August 24, 1931. Bellevue posted by Magnolia Petroleum Co.; Urania by Louisiana Oil Refining Co.; Calion by Gulf Refining Co.; East El Dorado by Gulf Refining Co. and Magnolia Petroleum Co.; Stephens, Ark., by Louisiana Oil Refining Co. and Atlantic Oil Producing Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Aug. 22, 1931)* ..... $ .52
Luling (Aug. 22, 1931)† ..... .34
Mirando (Aug. 22, 1931)* ..... .60
Pettus (Aug. 22, 1931)* ..... .70
Salt Flat (Aug. 22, 1931)* ..... .52

(Continued on Page 94)

CRUDE OIL GRAVITY TABLE

Gravity	Okla., Kans., East Central and North Central Tex. (1)	Oklahoma, Kansas. (2)	North Louisiana and Arkansas (3)	Gray County, Texas (4)	Hutchinson, Carson and Moore Counties, Texas (5)	Gray County, Texas (6)	Carson and Hutchinson Counties, Tex. (7)	Salt Creek, Wyo. (8)	Gulf Coast (9)
Below 25 degrees	...	...	...	...	...	...	...	...	.55
25-25.9 degrees	...	...	...	...	...	...	...	...	.56
26-26.9 degrees	...	...	...	...	...	...	...	...	.57
27-27.9 degrees	...	...	...	...	...	...	...	...	.58
28-28.9 degrees	...	...	...	...	...	...	...	...	.59
Below 29 degrees	.46	...	.46	...	...	...	...	.46	...
29-29.9 degrees	.48	.78	.48	...	...	...	...	.48	.60
30-30.9 degrees	.50	.80	.50	...	...	...	...	.50	.61
31-31.9 degrees	.52	.82	.52	...	...	...	...	.52	.62
32-32.9 degrees	.54	.84	.54	...	...	...	...	.54	.63
33-33.9 degrees	.56	.86	.56	...	...	...	...	.56	.64
34-34.9 degrees	.58	.88	.58	.60	.48	.46	.41	.58	.65
35-35.9	.60	.90	.60	.62	.50	.48	.43	.60	.66
36-36.9 degrees	.62	.92	.62	.64	.52	.50	.45	.62	.67
37-37.9 degrees	.64	.94	.64	.66	.54	.54	.47	.64	.68
38-38.9 degrees	.66	.96	.66	.68	.56	.54	.49	.64	.69
39-39.9 degrees	.68	.98	.68	.70	.58	.56	.51	.64	.70
40 degrees and above	.70	1.00	.70	.72	.60	.58	.53	.64	.71

Note—Magnolia Petroleum Co. does not pay on a gravity basis. The Magnolia company posted the following notices on August 22 and August 24 as indicated in the notices:

"Effective August 22, 1931, and until further notice our prices on crude oil will be as follows per barrel at the wells: Central Texas, which includes only Mexia, Wortham, Corsicana light, Panola County, and Lytton Springs, 64 cents; Panhandle district of Texas, Gray County, 58 cents; Carson and Hutchinson Counties, 51 cents; West Texas, being Crane, Upton, Howard, Glasscock and Mitchell Counties, 35 cents; Mirando, 60 cents; Darst Creek, 52 cents; Luling, 34 cents; Corsicana heavy, 34 cents. Oklahoma, including Cushing, Yale, Oklahoma City, Morrison, Wewoka and Seminole, 68 cents; Cement, Duncan, and Walters, 60 cents; Healdton, 37 cents; Hewitt and Graham, 52 cents. North and Central Texas, including only Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden, 68 cents; East Texas, 68 cents.

"Effective August 24, 1931, and until further notice our prices on crude oil in the states of Louisiana and Arkansas will be as follows per barrel at the wells: Louisiana, Bull Bayou, 68 cents; Haynesville, 50 cents; Pine Island, 58 cents; Cotton Valley, 46 cents. Arkansas, El Dorado and Rainbow, 48 cents; El Dorado East Field and Smackover district, 45 cents."

Colmun 1—The Texas Company (excepting Kansas), August 22; Gypsy Oil Co., Gulf Pipe Line, Carter Oil Co., Humble Oil & Refining Co., Stanolind Crude Oil Purchasing Co., Sinclair Refining Co., Continental Oil Co., Skelly Oil Co. (Kansas), Empire Pipe Line Co., Wilcox Oil & Gas Co., Tidal Refining Co., Pure Oil Co., Vickers Petroleum Co., Derby Oil Co., all on August 22.

Column 2—Phillips Petroleum Co., August 24.

Column 3—The Texas Company, August 22; Gulf Refining Co., August 22; Standard Oil Co. of Louisiana, August 24; Louisiana Oil Refining Co., August 24.

Column 4—Phillips Petroleum Co., August 24; Wilcox Oil & Gas Co., August 24.

Column 5—Phillips Petroleum Co., August 24.

Column 6—The Texas Company, August 22; Gulf Pipe Line Co., August 22; Humble Oil & Refining Co., August 22.

Column 7—The Texas Company, August 22; Gulf Pipe Line Co., August 22; Humble Oil & Refining Co., August 22.

Column 8—The Mid West Refining Co., August 22.

Column 9—The Texas Company, August 22; Humble Oil & Refining Co. and Gulf Pipe Line Co. on August 22 but their price schedule stops at 35 and above at 66 cents. Sun Co. and Sinclair Refining Co. met Humble-Gulf prices effective August 22, but Sun Co. posted a price of 55 cents for Grade A oil, it being the only company that maintains A and B grade classifications. The Vacuum Oil Co. applied the schedule to Lockport on August 27.

CALIFORNIA CRUDE OIL PRICES

STANDARD OIL CO. OF CALIFORNIA

For its current purchases of crude oil at the well (unless otherwise specified) for allowable crude oil produced in accordance with allocations made by the California Statewide Curtailment Committee. All gravities above those quoted take highest price offered in that field. Effective June 19, 1931, at 7 a. m.

Gravity	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	$.65	$.65	...	$.55	$.55
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
18-18.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
19-19.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
20-20.9	.65	.65	.65	.66	.65	.65	.65	.65	...	.55	.55
21-21.9	.65	.65	.65	.68	.67	.65	.66	.65	...	.55	.57
22-22.9	.65	.65	.66	.70	.68	.66	.68	.65	...	.56	.59
23-23.9	.67	.67	.68	.72	.70	.67	.70	.66	...	.58	.60
24-24.9	.69	.69	.70	.74	.72	.68	.72	.67	$.65	.61	.62
25-25.9	.71	.71	.72	.76	.74	.70	.74	.69	.65	.64	.64
26-26.9	.73	.73	.74	...	.76	...	...	.71	.65	.66	.66
27-27.9	.75	.75	.76	...	.78	...	...	.73	.68	.68	.67
28-28.9	.77	...	...	...	.80	...	...	.75	.71	.71	.69
29-29.9	.79	...	...	...	...	...	...	.77	.73	.74	.71
30-30.9	.81	...	...	...	...	...	...	.79	.75	.76	.72
31-31.9	...	...	...	...	...	...	...	...	.78	...	...
32-32.9	...	...	...	...	...	...	...	...	.80	...	...
33-33.9	...	...	...	...	...	...	...	...	.83	...	...
34-34.9	...	...	...	...	...	...	...	...	.86	...	...
35-35.9	...	...	...	...	...	...	...	...	.87	...	...

Standard Oil Co. of California prices in other fields:

Wheeler Ridge—55 cents per barrel for all grades (14° to 25.9°).

Coalinga—55 cents for all grades from 14° to 24-24.9°; 57 cents for 25 gravity.

Newhall, McKittrick and Kern River—55 cents for all grades (14° to 19.9°).

Montebello—65 cents for all grades (14° to 25.9°).

Whittier and LaHabra—65 cents for all grades (14° to 22.9°).

Elwood Terrace, f.o.b. ship—32° to 33.9°, 79 cents; 34° to 34.9°, 81 cents; 35° to 35.9°, 84 cents; 36° and above 87 cents.

Playa Del Rey—Prices subject to field gathering charge of 5 cents per barrel—19° to 19.9°, 65 cents; 20° to 20.9°, 65 cents; 21° to 21.9°, 66 cents; 22° to 22.9°, 67 cents; 23° to 23.9°, 68 cents; 24° to 24.9°, 67 cents; 25° and above, 68 cents.

ASSOCIATED OIL CO. PRICES

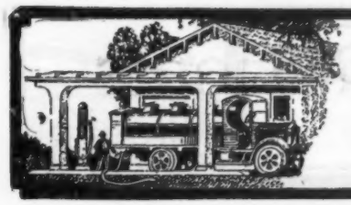
Associated Oil Co. prices, effective June 20, are as follows:

Ventura Avenue, 22 gravity, 58 cents, with 2 cents added for each degree upward to and including 30 gravity, which is 74 cents.

Kettleman Hills, 30 gravity and above, 66 cents.

Potrero, 24 gravity, 69 cents with 2 cents added for each degree upward to 34 gravity, which is 69 cents.

(Continued on Page 103)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Sept. 1

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago	14.0	14.0	3.0	9.0
Decatur, Ill.	14.4	14.4	3.0	9.0
E. St. Louis	13.7	13.7	3.0	8.2
Joliet	14.4	14.4	3.0	9.0
Peoria	14.4	14.4	3.0	9.0
Quincy	14.2	14.2	3.0	8.8
Davenport, Ia.	14.5	14.5	3.0	9.3
Des Moines	14.5	14.5	3.0	9.3
Keokuk	14.5	14.5	3.0	9.3
Sioux City	14.1	14.1	3.0	8.9
Duluth, Minn.	15.5	15.5	3.0	9.9
Mankato	15.1	15.1	3.0	9.7
Minneapolis	15.2	15.2	3.0	9.9
La Crosse, Wis.	16.2	16.2	4.0	10.0
Milwaukee	15.1	15.1	4.0	8.9
Madison	15.3	15.3	4.0	9.1
Detroit, Mich.	14.8	14.8	3.0	10.7
Grand Rapids	14.7	14.7	3.0	10.6
Saginaw	14.9	14.9	3.0	10.8
Evansville, Ind.	15.1	15.1	4.0	9.9
Indianapolis	15.3	15.3	4.0	10.1
South Bend	15.4	15.4	4.0	10.2
Fargo, N. D.	16.9	16.9	3.0	11.9
Huron, S. D.	16.3	16.3	4.0	10.7
Sioux Falls	15.8	15.8	4.0	10.4
K. C., Mo.	13.9	13.9	3.0	7.6
Springfield*	13.9	13.9	3.0	8.5
St. Louis*	13.9	13.9	2.5	8.3
St. Joseph	13.5	13.5	3.0	7.6
Wichita, Kans.	13.8	13.8	3.0	7.8
Bartlesville, Ok.	13.0	16.0	5.0	7.5

*State tax 2 cents, remainder city tax.

A third grade of gasoline, "Stanolind Blue," is sold at all major points at a price 2 cents or more below the price on the regular grade.

Effective April 15—Discounts on Q.D.A. on 1,000 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 2 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	13.0	14.0	4.0	8.0
Fort Worth	11.0	12.0	4.0	8.0
Houston	11.0	13.0	4.0	11.0
San Antonio	11.0	13.0	4.0	10.0
El Paso	12.0	14.0	4.0	12.0
Texarkana	16.0	16.0	4.0	11.0
Muskogee, Ok.	13.0	15.0	5.0	8.0
Okla. City	13.0	15.0	5.0	7.0
Tulsa	13.0	15.0	5.0	8.0
Ft. Smith, Ark.	14.5	15.5	5.0	11.0
Little Rock	16.0	16.0	6.0	11.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	15.25	16.25	4.0	9.25
McCook	16.0	17.75	4.0	10.75
Norfolk	15.75	16.75	4.0	9.75
N. Platte	16.75	17.75	4.0	10.50
Scottsbluff	16.0	16.0	4.0	10.25

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal station price; Red Crown, 2½ cents off normal service station price; Nabraska Blue (third grade) 1 cent off normal service station price.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	15.0	18.0	4.0	12.5
Pueblo	16.0	19.0	4.0	13.0
Grand Jctn.	13.0	21.0	4.0	14.5
Casper, Wyo.	15.0	18.0	4.0	10.0
Cheyenne	16.5	19.5	4.0	11.5
Butte, Mont.	17.0	20.0	5.0	16.0
Billings	20.0	23.0	5.0	14.5
Great Falls	21.0	23.0	5.0	16.0
Helena	21.0	24.0	5.0	16.0
Salt Lake, Utah	17.5	20.5	4.0	16.0
Albu'que, N.M.*	18.0	21.0	6.0	14.0
Boise, Idaho	20.5	23.5	5.0	18.0
Twin Falls	20.5	23.5	5.0	18.0

*One-cent excise city tax.

PACIFIC COAST TERRITORY

	Gasoline			Kero.
	Wh'la'e price	Retail* price	Incl'ds tax	tank wagon
Fresno	19.5	16.5	3.0	17.0
San Francisco	19.5	16.5	3.0	15.5
Los Angeles	19.0	16.0	3.0	15.5
Reno, Nev.	23.5	20.5	4.0	19.0
Portland, Ore.	21.0	18.0	4.0	16.5
Seattle, Wash.	22.0	19.0	5.0	16.5
Tacoma	22.0	19.0	5.0	16.5
Spokane	25.5	22.5	5.0	20.5
Phoenix, Ariz.	15.5	17.5	5.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 3 cents plus a 2-cent special temporary discount subject to withdrawal at any time.

*Retail prices posted by Standard Stations, Inc., a subsidiary.

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Pittsburgh, Pa.	*10.0	*11.0	...	11.0
Philadelphia	*10.0	.10.0	...	11.0
Scranton	*10.0	*11.0	...	11.0
Allentown	*10.0	*11.0	...	11.0
Altoona	*10.0	*11.0	...	11.0
Erie	*10.0	*11.0	...	11.0
Dover, Del.	13.0	14.0	3.0	11.0
Wilmington	13.0	14.0	3.0	11.0
Springf'd, Mass.	16.0	17.0	3.0	10.0
Worcester	13.0	14.0	3.0	10.0
Boston	13.0	15.0	3.0	10.0
Providence, R.I.	14.5	15.5	2.0	10.0
Hartford, Conn.	14.3	15.3	2.0	10.0
New Haven	14.3	15.3	2.0	10.0

*Does not include tax of 3 cents in Pennsylvania. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The above prices are subject to discounts to dealers and to commercial accounts under contract for one year in accordance with Code of Ethics.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.	16.0	15.0	6.0	12.0
Baton Rouge	15.0	16.0	6.0	12.0
Alexandria†	16.0	17.0	6.0	12.0
Lafayette*	16.0	17.0	6.0	12.0
Lake Charles*	16.0	17.0	6.0	12.0
Shreveport	15.0	16.0	6.0	12.0
Knoxville, Tenn.	18.5	19.5	6.0	13.5
Memphis	16.5	17.5	6.0	10.0
Chattanooga	18.0	19.0	6.0	12.0
Nashville	15.5	16.5	6.0	12.5
Bristol	17.5	18.5	6.0	14.0
Lt. Rock, Ark.	16.0	17.0	6.0	11.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

Two-cent discount off gasoline and kerosene tank wagon price to dealer and commercial accounts.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atl'tic City, N.J.	13.7	13.7	3.0	10.5
Newark	12.7	13.7	3.0	9.5
Annapolis, Md.	14.2	15.2	4.0	10.0
Baltimore	13.4	14.4	4.0	8.5
Cumberland	15.2	16.2	4.0	11.0
Wash'ton, D. C.	11.9	12.9	3.0	9.7
Danville, Va.	16.0	17.0	5.0	10.5
Norfolk	14.5	15.5	5.0	9.3
Petersburg	15.5	16.5	5.0	10.3
Richmond	14.9	15.9	5.0	9.7
Roanoke	16.2	17.2	5.0	11.0
Charles'n, W.Va.	14.7	15.7	4.0	10.5
Keyser	15.3	16.3	4.0	11.1
Parkersburg	13.4	14.4	4.0	9.2
Wheeling	14.6	15.6	4.0	10.4
Charlotte, N. C.	17.5	18.5	6.0	11.3
Hickory	17.8	18.8	6.0	11.6
Mt. Airy	17.7	18.7	6.0	11.5
Raleigh	17.4	18.4	6.0	11.2
Salisbury	17.7	18.0	6.0	11.5
Charleston, S.C.	15.5	16.5	6.0	9.3
Columbia	17.4	18.4	6.0	11.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers, except in Washington, D. C. and in States of New Jersey and Maryland where discount is 3 cents.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Albany, N. Y.	16.6	17.6	2.0	15.6
New York*	15.3	15.3	2.0	14.3
Buffalo	15.8	15.8	2.0	14.8
Rochester	16.0	16.0	2.0	14.0
Syracuse	16.8	16.8	2.0	14.8
Boston, Mass.	16.5	16.5	3.0	13.5
Augusta, Me.	18.8	18.8	4.0	14.8
Manch'tr, N. H.	18.4	18.4	4.0	14.0
Burlington, Vt.	19.3	19.3	4.0	15.3

*Prices in steel barrels.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points	15.0	16.0	4.0	*13.0

Dealers and commercial accounts 2 cents under tank wagon.

*Service station price 13.0 cents.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	16.0	16.0	6.0	12.5
Augusta	19.0	20.0	6.0	14.0
Macon	16.0	16.0	6.0	12.0
Savannah	18.0	18.0	6.0	12.0
Birm'ham, Ala.	15.0	15.0	6.0	13.0
Mobile	18.5	18.5	5.0	10.0
Montgomery	17.0	17.0	5.0	13.5
Clarks'le, Miss.	18.0	20.0	5.0	13.5
Jackson	16.0	16.0	5.0	11.5
Natchez	18.0	20.0	5.0	13.5
Gulfport	16.0	16.0	5.0	13.5
Vicksburg	14.0	14.0	5.0	11.5
Jack'ville, Fla.	15.0	15.0	7.0	12.0
Miami	19.0	21.0	7.0	13.0
Pensacola	19.0	20.0	7.0	13.0
Tampa	18.0	19.0	7.0	12.0
Lexington, Ky.	17.0	18.0	5.0	12.0
Covington	16.0	17.0	5.0	11.0
Louisville	16.0	17.0	5.0	10.0
Ashland	17.0	19.0	5.0	13.0
Paducah	16.0	17.0	5.0	11.0
Bowling Green	19.0	21.0	5.0	14.5
Corbin	18.0	19.0	5.0	15.0

A third grade "Kyso Green," is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery, Birmingham and Mobile state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents.

Effective April 2 price to dealers 2 cents under posted tank wagon price.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	10.7	6.0
V.M.P. naphtha	12.7	7.5
Cleaners' naphtha	14.2	9.0
Stanisol	14.2	9.0

Tank wagon prices f.o.b. Chicago and Whiting, effective July 3.

STANOLIND FURNACE OIL IN CHICAGO

Effective July 1, prices f.o.b. Chicago, tank wagon prices: 1 to 99 gallons, 8 cents; 100 gallons or more 6 cents.

Stanolex Fuel

Effective May 9, f.o.b. Chicago, tank wagon prices: 1 to 199 gallons, 7 cents; 200 gallons or more, 5 cents. Sinclair met this by bringing down the price of its No. 3.

Fuel Oils

Chicago tank wagon prices (in lots of 400 gallons and over): 28-40 straw distillate, 6 cents; 32-36 gas oil (light zero), 5.5 cents; 32-36 gas oil (industrial) 5.25 cents; 28-30 zero fuel oil, 5 cents; 24-26 fuel oil, 4.25 cents; 18-22 fuel oil, 3.75 cents.

TANK WAGON CHANGES

Standard Oil Co. of New Jersey advanced the gasoline station price 2½ cents in Charlotte, N. C., to 18.5 cents on August 24. On August 25 the station price in Salisbury, N. C., was reduced .7 cent to 18 cents.

Standard Oil Co. of Louisiana ad-

(Continued on Page 103)

CRUDE OIL PRICE CHANGES

The Phillips Petroleum Co.'s gravity scale and prices ranging from 78 cents for 29 degrees, up to $1 for 40 degrees and above, effective on August 24, was applicable to Oklahoma and Kansas, and not to Oklahoma alone as previously stated.

On August 29 the Seep Purchasing Agency (South Penn Oil Co.) advanced all Pennsylvania grade oils purchased by it 5 cents per barrel. Tide Water Pipe Co. advanced Bradford, Pa., and Allegany, N. Y., crude 10 cents per barrel, and Pure Oil Co. advanced 5 cents in West Virginia.

On August 24 the Continental Oil Co. advanced Florence, Colo., crude to 50 cents; Welling, Colo., to 51 cents, and Fort Collins, Colo., to 61 cents.

The posted price of Sunburst, Mont., oil, effective August 24, was 90 cents for

(Continued on Page 103)

CRUDE OIL PRICES

(Continued from Page 93)

Thrall‖	
Lytton Springs (Lockhart)	See gravity table
Dobrowolski‖	
Same as Mid-Continent gravity scale up to and including 38-38.9°	
Somerset‖	
Same as Mid-Continent gravity scale up to and including 38-38.9°	

*Texas, Humble and Gulf all posted on August 22. †Magnolia Petroleum Co. ‖Thrall prices same as North Central Texas less 19¼ cents per cwt. freight. ¶Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products. ‖Pioneer Oil & Refining Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Iles, light (Aug. 24, 1931)	$ .75
Iles, heavy (Aug. 24, 1931)	.53
Fort Collins (Aug. 24, 1931)	.61
Florence (Aug. 24, 1931)	.50
Wellington (Aug. 24, 1931)	.51
Dutton Creek (Aug. 24, 1931)	.60
Rock Creek, Wyo. (Aug. 24, 1931)	.70
Frannie, light (Aug. 24, 1931)	.53
Frannie, heavy (Aug. 24, 1931)	.43
Salt Creek	Mid-Continent gravity table
Big Muddy (Aug. 24, 1931)	.68
Grass Creek (Aug. 24, 1931)	.90
Elk Basin (Aug. 24, 1931)	.90
Lance Creek (Aug. 24, 1931)	1.05
Poison Spider (Mar. 5, 1931)	.70
Notches (Mar. 14, 1927)	.65
Hudson (June 2, 1931)	.65
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage (Apr. 15, 1931)	.98
Lost Soldier (Aug. 25, 1931)	.54
Hamilton Dome (Mar. 14, 1927)	.85
Greybull (Aug. 24, 1931)	.90
Torchlight (Aug. 24, 1931)	.90
Cat Creek (Aug. 24, 1931)	.90
Pondera (Aug. 24, 1931)	.80
Sunburst, Mont. (Aug. 24, 1931)	.90
Hogback, N. Mex. (Aug. 24, 1931)	.80
Lea County, N. Mex. (Aug. 24, 1931)	.35
Border, Mont.	1.55
Red Coulee, Alberta	1.55
Dry Creek, Mont. (Aug. 24, 1931)	1.00
Maljamar (Aug. 22, 1931)	1.00
Artesia-Jackson (Aug. 22, 1931)	.35

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull and Hogback posted by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Ohio Oil Co. ceased posting Artesia on March 5, 1931. Lea County posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa, by the Continental Oil Co. Osage posted by Arro Oil & Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective August 24, 1931)

Lima	$ .90
Wooster	1.00
Illinois	.80
Indiana	.50
Princeton	.80
Plymouth	Shut in
Western Kentucky	.75
Midland, Mich.*	.73
Dundee, Mich.†	
Same as Standard Crude Oil Purchasing Co.'s Mid-Continent gravity scale Upper and Lower Traverse Sands, Mich.†	
Same as Mid-Continent gravity scale	
Somerset, Ky. (Aug. 22, 1931)	.80
Hart County, Ky. (Aug. 24, 1931)‖	.75
Petrolia (Canada) (Aug. 24, 1931)¶	1.80
Oil Springs (Canada) (Aug. 24, 1931)¶	1.87

*Posted by Pure Oil Co. †Posted by Standard of Indiana for boat shipment. ‖Posted by Stoll Refining Co. ¶Posted by Imperial Oil, Ltd. Somerset, Ky., crude purchased by Ashland Refining, Ashland, Ky., and delivered through Cumberland Pipe Line.

Panuco*	$ .44

*F.o.b. ship, based on July transactions and exclusive of taxes and bar dues.

Of Interest to Sales Departments

Gasoline Demand 4.7 Per Cent More Than June Year Ago

Gasoline consumption in 46 states and the District of Columbia for the month of June, 1931, as indicated by reports made by wholesalers and dealers in the various states under provisions of the gasoline tax laws or gasoline inspection laws, totaled 1,303,749,000 gallons, compared with 1,244,780,000 gallons in June, 1930, an increase of 58,969,000 gallons, or 4.7 per cent, according to the American Petroleum Institute. Daily average consumption for June, 1931, was 43,458,000 gallons compared with a daily average of 40,168,000 gallons in May, 1931, an increase in daily average during June of 8.2 per cent.

Gasoline consumption in these 46 states and the District of Columbia for the six months ending with June, 1931, amounted to 6,446,911,000 gallons, compared with 6,248,924,000 gallons for the corresponding period of 1930, an increase of 197,987,000 gallons, or 3.2 per cent.

The figures giving the quantity of gasoline sold or offered for sale, as reported under the various laws, follow. In some cases they are gross figures before deductions allowed for small quantities of gasoline reshipped or sold for other than taxable use, the tax upon which, if paid, is subsequently refunded. All figures are subject to revision:

GASOLINE CONSUMPTION BY STATES, JUNE, 1931

	Month of June, 1931	Month of June, 1930
Alabama	14,376,000	14,772,000
Arizona	6,898,000	6,566,000
Arkansas	9,183,000	11,434,000
Colorado	17,350,000	15,311,000
Connecticut	22,716,000	21,004,000
Delaware	3,361,000	3,293,000
Dist. of Columbia	8,437,000	6,998,000
Florida	17,840,000	16,249,000
Georgia	19,144,000	18,357,000
Idaho	6,498,000	5,979,000
Illinois	93,223,000	89,732,000
Indiana	44,938,000	†40,755,000
Iowa	38,336,000	34,957,000
Kansas	39,964,000	42,149,000
Kentucky	15,851,000	15,344,000
Louisiana	16,576,000	15,542,000
Maine	12,271,000	11,491,000
Maryland	17,482,000	16,553,000
Massachusetts	54,473,000	51,431,000
Michigan	75,316,000	74,985,000
Minnesota	41,615,000	38,253,000
Mississippi	*11,500,000	11,384,000
Missouri	41,981,000	40,501,000
Montana	7,915,000	8,778,000
Nebraska	21,735,000	19,683,000
Nevada	2,564,000	1,977,000
New Hampshire	6,956,000	6,511,000
New Jersey	54,042,000	50,031,000
New Mexico	5,162,000	4,966,000
New York	152,703,000	142,510,000
North Carolina	18,689,000	20,464,000
North Dakota	10,529,000	11,302,000
Ohio	90,349,000	89,976,000
Oklahoma	32,491,000	31,206,000
Oregon	18,320,000	16,420,000
Rhode Island	9,405,000	7,877,000
South Carolina	10,498,000	9,842,000
South Dakota	13,534,000	12,766,000
Tennessee	20,071,000	19,327,000
Texas	77,273,000	72,932,000
Utah	6,204,000	5,857,000
Vermont	4,959,000	4,951,000
Virginia	22,282,000	20,006,000
Washington	27,209,000	24,996,000
West Virginia	13,533,000	13,278,000
Wisconsin	43,621,000	42,491,000
Wyoming	4,376,000	3,743,000
Total	1,303,749,000	1,244,780,000
Daily average	43,458,000	41,493,000

	Quarter ended June 30, 1931	Quarter ended June 30, 1930
California	389,715,000	347,735,000

*Estimated. †Revised.

ORGANIZE SYRACUSE DEALERS

The Syracuse Independent Gasoline Dealers Association has been formed by a group of 50 dealers operating in central New York. Albert H. Cornwall of North Syracuse has been elected president of the association; Russell A. Fink of Mattydale, vice president, and Thomas Garrison of Fayetteville, secretary.

PREDICT INCREASED CAR PURCHASES IN 1932

Increased sales of gasoline may be expected next year as a result of the prediction that 1932 will be accompanied by a greater demand for automobiles. This is based on a survey recently completed by the Fidelity-Phoenix Insurance Co.

The survey recalls the recent estimate that of the more than 26,700,000 passenger cars and trucks registered in the United States more than 13,000,000 will have been in the used-five-years-or-more class by the end of this year and consequently ready for replacement.

"In 1930, 14.3 per cent of the passenger cars traded in were junked, as compared with 9.2 per cent in 1929, while 16.8 per cent of the commercial vehicles traded in during 1930, were likewise destroyed. The 1930 per centage for the latter class, incidentally, were varied but slightly from the 1929 ratio.

"Another market factor is the subnormal consumption of 2,900,000 new motor vehicles in the domestic field in 1930, whereas the average for the last six years was 3,672,500."

PLAN NOT TO ADVANCE OIL PRICES IN MEXICO

NEW YORK, Sept. 1.—Principal petroleum companies operating in Mexico have agreed not to increase prices of their products at conferences held with the ministry of industry, commerce and labor.

The ministry, it is reported, has convinced these companies that price raising would be to their disadvantage as it would ultimately result in the Government being obliged to raise taxes on these enterprises.

The oil companies, the report concludes, have agreed to fix prices on the basis of dollar exchange rates prevailing before the enactment of the new monetary law. The basis will be fixed by mutual agreement between the companies and the ministry at an early conference.

SEARS, ROEBUCK STATION

Sears, Roebuck & Co., which recently acquired a controlling interest in one of the largest department stores in Tulsa, has purchased a site for a super-service station adjoining the department store building. It is understood that the company expects to offer complete gasoline, lubricating oil and grease service as well as tire and other automobile accessory service. The company is building a similar station in Chicago and has operated a station at Atlanta, Ga., for several months.

SEEK REPEAL OF TAX LAW

NEW YORK, Aug. 29.—The American Oil Burner Association will make an attempt during the next session of the North Carolina Legislature to secure repeal of a law recently enacted in that State requiring every person, firm, or corporation engaged in the business of selling, delivering or renting oil burners to pay $100 for a privilege license and in addition a tax of 1 per cent on gross sales.

MAIL CARRIERS TO PAY TAX

AUGUSTA, Me., Aug. 29.—Rural free delivery carriers are not exempt from the state gasoline tax, the attorney general of Maine, Clement F. Robinson, has advised the state auditor.

NAVY CALLING FOR BIDS ON KEROSENE

WASHINGTON, D. C., Aug. 31.—The Navy is calling for bids for kerosene for delivery on the East and West Coasts. These bids will be opened in Washington, D. C., September 15, 1931. Firms interested in furnishing these supplies should submit their bids on Standard Form No. 31, Navy edition, to the Bureau of Supplies and Accounts, Navy Department.

Places of delivery and quantities of kerosene desired follow: Portsmouth, N. H., 3,000 gallons, tank wagon delivery; Boston, Mass., 6,700 gallons, steel drums or barrels; Submarine Base, Conn., 8,000 gallons, tank wagons; Torpedo Station, Newport, R. I., 10,000 gallons, tank wagons; Naval Training Station, Newport, R. I., 1,800 gallons, tank wagons; Contractors' Dock, Newport, R. I., 1,750 gallons, drums or barrels, 750 gallons in 5-gallon cans; Brooklyn, N. Y., 6,000 gallons in cans, 20,000 gallons in drums or barrels; Philadelphia, Pa., 24,000 gallons in tank cars; Annapolis, Md., 4,000 gallons in tank wagons; Washington, D. C., 1,200 gallons in cans; Naval Operating Base, Hampton Roads, Va., 10,000 gallons in cans, 50,000 gallons in tank cars; Charleston, S. C., 10,000 gallons in drums or barrels, 1,000 gallons in cans; Pensacola, Fla., 22,000 gallons in tank wagons; San Diego, Calif., 1,000 gallons in cans, 2,000 gallons in drums or barrels, 3,000 gallons in tank wagons; San Pedro, Calif., 1,000 gallons in cans, 2,000 gallons in drums or barrels; San Francisco, Calif., 7,500 gallons in tank wagons, 4,500 gallons in cans; Mare Island, Navy Yard, Calif., 5,000 gallons in cans, 15,000 gallons in tank wagons; Bremerton Navy Yard, Wash., 3,000 gallons in cans, 24,000 gallons in tank wagons.—C. E. K.

MUST PAY LICENSE TO PLACE SIGNS ON ROADS

All roadside signs advertising gasoline and oil in the State of Maryland must bear a license tag for which a fee is paid to the State. During the last month 15,000 advertising signs of all kinds have been removed from the roadside through Maryland, many of which are on highways leading into the District of Columbia. Every sign hereafter must pay its way in the State of Maryland. Improving scenery is the purpose back of legislation against the signs. The work of removing the offending advertising placards will be continued until only licensed signs remain.—C. E. K.

JOINS STAFF OF PENN GRADE OIL ASSOCIATION

OIL CITY, Pa., Sept. 1.—Rodney J. Alexander, executive secretary, Pennsylvania Grade Crude Oil Association, recently announced the appointment of Harvey Willson as assistant secretary. Willson came from New York City where he was for nine years assistant general manager of the Rubber Manufacturers Association, which embraces all of the prominent tire manufacturers.

OBTAINS NEW JERSEY ORDER

NEW YORK, Aug. 29.—Crew-Levick Co. has been awarded a contract by the State of New Jersey for tank wagon delivery of gasoline for the present fiscal year, amounting to 825,000 gallons. Deliveries will be made to various state institutions having facilities for tank wagon deliveries in all parts of the State. The state business will be handled by the Newark and Philadelphia divisions of the company.

Domestic Burners To Use 36,500,000 Bbls. Oil in 1931

An increase of 6,096 per cent in the number of domestic oil burners in the United States in the past 10 years is revealed in an analysis of the progress of heating with oil which has just been completed by the American Oil Burner Association. Domestic burners in use have increased from 12,500 in 1921 to more than 750,000 and it is estimated that by the end of the current year the total will have grown to 774,500. Figures covering commercial oil heating installations show that the number has increased from 24,000 in 1925 to 42,400 in 1931.

The percentage of increase in the oil burner industry, it is suggested, is somewhat greater due to the fact that exports, which have shown a decided increase in recent years, and industrial installations, which also have increased, are not included in the analysis. Also the figures include only the number of burners in operation at the present time and are not based on the total sales of domestic burners over the past 10 years which are estimated at 865,100 as against 774,500 in operation at the end of the current year.

Sales Show Increase

Annual sales of domestic burners have increased from 9,100 in 1921 to 125,500 in 1930, representing a dollar value increase from $7,500,000 to $321,000,000. The sharpest increase has occurred since 1927 when total sales jumped from 81,000 to 110,500 the following year and to 124,000 in 1929.

Fuel oil consumption has shown a corresponding increase. Approximately 600,000 bbls. were required in 1921, while 27,790,000 were used last year and it is estimated that 36,500,000 will be required for home heating in 1931. The figures were based on barrels of 42 gallons. The average consumption for mechanical draft burners is 60 bbls. a year while natural draft burners use an average of 40 bbls. and commercial installations an average of 500 bbls. per year.

Mechanical draft burners have shown a decided and steady increase over burners of the natural draft type. In 1921 there were 5,000 mechanical draft and 7,500 natural draft burners in operation. By the end of this year the totals will read 614,500 for mechanical draft and 160,000 for natural draft. Sales of natural draft burners have gained every year since 1921 with two exceptions, 1925 and 1926. Mechanical draft burners have increased every year.

LAUNCH LARGE TANKER

NEW YORK, Aug. 29.—Nippon Tanker Kaisha, Ltd., has placed in operation its new tanker, the twin-screw motor vessel "Teiyo Maru," reputedly the fastest tanker afloat.

The new tanker, in its trial runs, attained a mean speed of 17.53 knots, fully loaded. The "Teiyo Maru" is propelled by two Yokohama-M.A.N. double-acting two-cycle airless injection Diesel engines, the first units of this type to be constructed in Japan. The total output of 7,200 B.h.p. is reported the largest in any oil tanker yet built.

The "Teiyo Maru" is of 12,320 d.w. tons.

CONTEST 7-CENT TAX

Taxpayers in Florida have filed suit with state officials to prohibit the collection of a 7-cent gasoline tax on the grounds that the recently enacted law is invalid. The tax is the highest assessed by any state.

Improvement in Oil Securities Market

Large Integrated Companies Benefit by Inventory Appreciation. Merger Negotiations a Factor. Pipe Line Issues

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Aug. 31.—Developments in the petroleum market situation during the past month, particularly the shutdown of production in the Mid-Continent area, have brought about a substantial improvement in the financial position of many large oil companies, and better gasoline and other products prices, which have followed the curbing of crude output, give promise of further strengthening the general situation.

Large integrated companies have benefited materially from the inventory appreciation resulting from the sharp price advances in crude oil and the higher selling prices for refined products has likewise strengthened the inventory position of the industry as a whole.

Rapid development of flush producing areas in East Texas during the first half of 1931 created havoc with the inventory position of many large oil units, a number of which at times during recent months have shown in excess of 50 per cent crude inventory depreciation under December 31, 1930, levels. Based on present prices for crude and products, however, inventories are in better shape now than at any time previously during the past six months, and present indications point to continued improvement in this direction during the remainder of the year.

While summer touring is about over for the season, and the bulk of the gallonage has been handled at unprofitable levels this year, the statistical position of the gasoline market has been so materially improved during the past two months that it is expected gasoline prices in both refinery and retail markets will average better during the closing four months of the year than during the summer season, when quotations normally are at peak for the year.

Recent developments in the oil situation have benefited the large integrated operators more than the smaller independents, many of the latter, in the refining end of the business, having been compelled to shut down because of their inability to obtain sufficient supplies of crude during the past month. The shutting down of these smaller plants has benefited the general market situation, however, necessitating as it has a substantial drawing against surplus refinery gasoline stocks to take care of current demand.

The East has not yet felt the full effects of the change in fundamental market conditions, which has already made itself apparent in substantial increase in gasoline quotations in other parts of the country. Eastern markets, however, are showing definite signs of improvement, and early strengthening in the price basis is anticipated, with a resultant betterment in the earning position of Eastern companies.

In securities markets, the strength in the petroleum position has been the most constructive market development of recent months, and the oils, as a group, have virtually "carried" the entire market at times, interest being stimulated both by the stronger position of the oil industry and merger negotiations among some of the larger units.

Pipe Line Issues

Considerable market interest has been shown in pipe line issues during recent weeks, following the disclosure of the pending sales of Cumberland Pipe Line Co. to refining interests which its lines serve.

In some quarters of the market there is a definite belief that the next year or so will witness the acquisition of many existing pipe line systems by large integrated companies which these lines serve, and because of this belief there is much interest in liquidating values of the various pipe line companies, many of which are reputedly greatly underpriced at current stock market price levels.

An unconfirmed rumor in financial circles links Atlantic Refining with National Transit, the lines of the latter being admirably situated with respect to Atlantic's operations.

Humble Dividend

Humble Oil & Refining Co. has declared the regular quarterly dividend of 50 cents a share, payable October 1 to stock of record September 1.

Lion Oil Refining

Lion Oil Refining Co. reports for the six months ended June 30 net loss of $324,048 after interest, depreciation, depletion, and other charges, against net profit of $19,054 before Federal taxes in the first half of 1930. For the June quarter net loss was $121,551 after charges against net loss of $202,497 in the previous quarter and profit of $17,339 before Federal taxes in the June quarter last year.

North Central Texas Oil

North Central Texas Oil Co. reports for the June quarter net loss of $1,915 after taxes, depreciation, property write-offs, and other charges, against net profit of $7,531 in the previous quarter and net profit of $50,875 in the June quarter last year. For the first six months of 1931 net profit was $5,516 against $96,829 in the comparable period last year.

Standard of Kentucky

Standard Oil Co. of Kentucky has declared the regular quarterly dividend of 40 cents per share, payable September 30 to stock of record September 15.

May Retire Preferred

Sinclair Consolidated Oil Corp. will retire its present outstanding 8 per cent cumulative preferred stock, callable at 110, before the end of the year, according to reports in financial circles. Retirement of the 141,294 shares of preferred stock outstanding as of December 31, 1930, would require $15,542,340. At the close of 1930 the company had $35,794,974 in cash in addition to insurance fund and securities of $3,736,079. As it has been the company's policy to purchase the preferred stock in the open market, it is believed the amount at present outstanding is below the total as of December 31, last.

Standard of California

Standard Oil Co. of California reports for quarter ended June 30, 1931, net profit of $1,275,358 after depreciation, depletion, amortization, federal taxes, an inventory revaluation, equivalent to 10 cents a share on 13,102,900 shares of no-par capital stock. This compares with $4,386,610 or 33 cents a share on 13,102,900 shares in preceding quarter and $10,288,300 or 80 cents a share on 12,845,980 shares in June quarter of previous year.

For six months ended June 30, 1931, net profit totaled $5,643,968 after charges, inventory revaluation, etc., equal to 43 cents a share on 13,102,900 shares, against $19,718,524 or $1.53 a share on 12,845,980 shares in first half of 1930.

Dividend No. 22, of 62½ cents a share, was declared, payable September 15, 1931, to stockholders of record August 15, 1931.

Pure Oil

Pure Oil Co. has declared the regular quarterly dividends of $1.25 on the 5¼ per cent preferred, $1.50 on the 6 per cent preferred, and $2 on the 8 per cent preferred stocks, all payable October 1 to stock of record September 10.

Paragon Refining

Paragon Refining Co. has declared a liquidating dividend of $1 on the common stock payable on presentation of certificates on or after August 10 at the Fifty-third Union Trust Co. of Cincinnati or Guardian Trust Co. of Cleveland. This is the third dividend to be paid on the common and increases payments to $13 a share.

Shell Union

Shell Union Oil Corp. and subsidiaries report for quarter ended June 30, 1931, net loss of $11,056,034 after interest, depreciation, depletion, etc., comparing with net loss of $9,903,472 in preceding quarter and profit of $2,874,031 before Federal taxes in June quarter of previous year.

Net loss for six months ended June 30, 1931, amounted to $20,959,506 comparing with net loss of $280,977 in first half of 1930.

Shell Pipe Line Corp. controlled by Shell Union Oil, reports for quarter ended June 30, 1931, profit of $3,726,448 after interest, depreciation, etc., but before Federal taxes, comparing with profit of $3,797,985 in preceding quarter and profit of $4,062,837 in June quarter of previous year.

Profit for six months ended June 30. 1931, amounted to $7,524,433 before Federal taxes against profit of $7,734,018 in first half of 1930.

Continental Oil

Report of Continental Oil Co. (Delaware) and subsidiaries for six months ended June 30, 1931, shows consolidated net loss of $6,528,841 after franchise taxes, intangible development costs, depreciation, depletion, interest and minority interest, comparing with profit before Federal taxes, of $2,643,820 in first six months of 1930.

Consolidated net loss for quarter ended

(Continued on Page 101)

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending August 22)

1931 High	1931 Low	Week ended Aug. 22 Sales	Week ended Aug. 22 High	Week ended Aug. 22 Low	Close Aug. 26	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1	⅛	No sales	..	..	..	Atlantic Lobos	499,448	N.P.	....	5-28-30	..	..	..	..	1	⅛
16	6¼	†50	13½	13½	..	Borne Scrymser	$1,000,000	$25	....	10-15-30	56½	44½	46½	25	25	11¼
56	40	300	55	55	..	Buckeye Pipe Line	$10,000,000	$50	$1Q	6-15-31	76	53	74½	55	69	39⅞
129½	101	No sales	..	..	..	Chesebrough Mfg.	$3,000,000	$25	$1Q‡	6-30-31	161	117	210	130	184⅞	104¼
3⅞	2	7,200	3¼	2⅜	2⅝	Creole Petroleum	(sh) 5,977,872	N.P.	....	.....	17½	9½	11¾	5⅝	7⅝	3
39	20⅝	500	39	36	..	Cumberland Pipe Line	$1,500,000	$50	50cQ	6-15-31	114	67	75⅜	40	65¾	20¼
34	24	200	34	34	34½	Eureka Pipe Line	$5,000,000	$100	$1Q	5- 1-31	88	64⅛	70½	40	54¾	26
3	1	1,000	3	2½	..	Galena Signal Oil	$16,000,000	$100	....	.....	13	4¼	6½	3	7	2½
72	49⅞	3,600	71	63⅝	65	Humble Oil & Refining	$74,103,300	$25	50cQ	7- 1-31	114¾	59½	128	74⅛	119	57¼
18¼	9⅞	8,000	14¼	13⅛	13⅜	Imperial Oil of Canada (new)	(sh) 25,421,768	N.P.	12½cQ	6- 1-31	104	56¾	41	22	30	15
21⅛	9⅛	700	12⅞	12⅛	..	Indiana Pipe Line (new)	$3,000,000	$10	25cQ	5-16-31	91⅞	74⅜	41⅞	26	41	14½
15½	8¾	17,500	14⅛	12⅝	13	International Petroleum (new)	(sh) 14,247,088	N.P.	25cQ	6-15-31	55	35	30⅜	15	24	11⅜
17½	11¼	300	13⅞	13¼	..	National Transit	$6,362,500	$12.50	25cQ	6-15-31	32⅜	19⅜	25⅛	10⅛	22⅜	11½
14½	7½	100	9	9	9	New York Transit	$1,000,000	$10	25cQ	7-15-31	75	38½	17½	10	21⅜	10⅛
33	25	300	33	31	..	Northern Pipe Line	$2,000,000	$50	$28A	7- 1-31	69	56½	63	41	54	26¼
15½	8	700	12½	10	..	Penn Mex Fuel	$10,000,000	$25	75c	6-24-31	84	28	44½	20	32	12
16½	3¼	1,000	15½	14¼	16¼	Solar Refining	$4,000,000	$25	....	12-20-29	..	..	50	29	33	4⅞
17	10	100	14	14	13½	Southern Pipe Line	$1,000,000	$10	50c	6- 1-31	19	15	22½	13	20⅞	8⅜
23⅞	12⅜	2,700	20	16⅜	19¼	South Penn Oil	$30,000,000	$25	25cQ	6-30-31	71⅞	36¾	60¼	35⅛	45⅞	16⅛
41	31¼	No sales	..	..	41	Southwest Pennsylvania Pipe Line	$1,750,000	$50	$1Q	7- 1-31	102	70	70	60	64	32
38½	19⅛	36,200	27⅜	25¾	27¼	Standard Oil of Indiana	$348,175,069	$25	50cQ	6-15-31	95⅞	70⅞	63	45	59⅞	30
23⅜	15⅝	5,200	20⅞	19½	21½	Standard Oil of Kentucky	$25,654,516	$10	40cQ	6-30-31	179¾	122¼	46⅞	29	40½	18⅝
36½	19½	No sales	..	..	..	Standard Oil of Nebraska	$4,649,225	$25	50cQ	6-20-31	54⅞	39⅞	50¼	40	48⅞	34⅝
62½	35	1,350	52	50	55	Standard Oil of Ohio	$14,000,000	$25	62½cQ	7- 1-31	134	71	129	60	108½	43¼
4½	2⅝	200	4½	3½	..	Swan-Finch Co.	$861,466	$25	....	1-15-29	23¼	16	18	10	10	4
69¾	22⅛	8,600	52	47½	..	Vacuum Oil Co.	$126,180,350	$25	50cQ	6-20-31	111	72	133¾	75	97¾	45⅝

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus 50 cents extra.

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending August 22)

1931 High	1931 Low	Week ended Aug. 22 Sales	Week ended Aug. 22 High	Week ended Aug. 22 Low	Close Aug. 26	Stocks		Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1¾	½	700	¾	⅝	½	American Maracaibo	(sh)	700,000	N.P.	....	.....	9½	3⅛	8⅝	1⅛	4½	½
16⅞	8½	400	12⅛	11¾	..	British American Oil Corp.		1,311,321	N.P.	20cQ	7- 2-31	55	32¾	62	7⅞	23	13⅜
2⅝	½	300	1¼	1⅛	..	Carib Syndicate		$131,250	25c	....	.....	4½	3⅞	4⅞	1	2¾	⅝
20¾	8⅝	117,300	11	9⅝	10½	Cities Service	(sh)	24,290,359	N.P.	30cA‡	7- 1-31	90⅞	54	68⅛	20	44¼	13
84⅜	61¼	800	63¼	62⅜	..	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	7- 1-31	103¼	94½	98¾	84	93⅞	78¼
½	⅛	500	⅛	⅛	⅛	Colombia Syndicate		$2,000,000	$1	....	.....	3¼	.76	2	½	¾	⅛
2¾	1½	No sales	..	..	..	Consolidated Royal		$5,527,875	$10	7½cQ	4-25-31	8⅞	6¼	11¼	2½	5⅞	2
⅝	¼	No sales	..	..	..	Crown Central		.....	....	....	.....	..	..	..	..	..	..
5	2	400	3⅞	3¼	..	Darby Petroleum (new)		1,019,392	N.P.	....	10-15-30	33½	3¼	26	6½	21¾	4¼
6	2½	11,000	5¼	4¼	3½	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2¼	1	11	2	11	2
40⅛	26	No sales	..	..	..	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	21⅛	7½	44	20¾	60	30
75½	38	13,600	69⅜	62⅞	65	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	7- 1-31	165	101⅛	209	115	166⅞	58½
⅝	¼	20,200	⅜	¼	⅛	Intercontinental Petroleum		$5,682,000	$5	....	.....	3⅜	1	2⅞	⅜	1¾	⅜
1⅞	½	No sales	..	..	..	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	3	1¼	3⅝	1¼	3	⅞
1½	½	4,900	1	⅝	1	Leonard Oil & Development		$50,000,000	$25	....	.....	9⅜	5⅛	6⅛	1	4¾	½
6⅜	3½	100	4⅜	4⅜	..	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	43⅞	20	38⅞	18	29	4⅞
25	14¾	1,600	16	15¾	15½	Lone Star Gas	(sh)	5,000,000	N.P.	22cQ	6-30-31	69¼	48½	67⅞	28	55⅞	19⅝
½	⅛	4,600	⅛	⅛	¼	Magdalena Syndicate	(sh)	850,000	$1	....	.....	1⅞	½	1¼	½	½	⅛
5	3	200	4	4	4	Margay Oil Corp.		160,000	N.P.	....	7-10-30	48½	32	38½	14	16	3
4⅞	1½	No sales	..	..	..	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	8	2¾	6⅜	2¼	7½	1¾
½	⅛	300	⅛	⅛	..	Mountain & Gulf		$4,000,000	$1	....	4-15-31	1¾	.76	1½	½	¾	⅜
5⅞	3⅛	3,000	5⅜	4	5⅛	Mountain Producers		$1,682,182	$10	25cQ	7- 1-31	28⅞	19½	22⅞	7	12⅛	3¾
1½	½	400	⅞	¾	..	New Bradford Oil		$1,095,291	$5	....	4-15-31	5⅝	4¼	5	2½	3½	1⅛
3	1¼	1,000	1⅝	1½	..	New Mexico and Arizona		$1,000,000	$1	....	.....	11⅞	7⅛	9⅜	2¼	7¼	1½
3¼	1⅜	No sales	..	..	..	North Central Texas	(sh)	400,000	N.P.	....	9- 2-30	14¼	8½	18½	6⅛	11¼	2⅛
½	⅛	5,000	⅛	⅛	⅛	Pandem	(sh)	489,875	N.P.	....	.....	6	2⅛	3½	½	2½	¼
2	⅜	300	½	½	½	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	15⅝	8½	10½	1⅞	4⅜	⅞
3⅛	½	2,300	2	1½	2¾	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	12⅞	4⅛	8½	1⅛	5⅜	1
3	1¼	100	2½	2½	..	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	12	4⅛	11	2	8⅝	2
1⅜	½	100	¾	¾	..	Salt Creek Consolidated	(sh)	1,286,300	$10	....	4- 1-31	7¼	5½	5⅞	1⅞	2½	½
7¾	4	2,400	7	5¾	5⅝	Salt Creek Producers	(sh)	1,496,859	$10	35cQ	5- 1-31	35	23⅛	25⅞	9	15¼	5¼
5¼	1	2,200	1¾	1⅝	1⅜	Sunray Oil	(sh)	1,163,185	$5	5%Q§	4-15-31	..	..	12	5⅝	10	2
17⅛	⅝	1,700	1	¾	..	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	9⅛	4¾	6½	1¾	4½	⅜
3½	1½	No sales	..	..	..	Woodley Petroleum		$500,000	$1	....	3-31-29	8¼	4⅞	9½	2	5	½
2¼	¼	2,300	1⅞	1⅝	1⅛	Y Oil & Gas		100,000	N.P.	....	.....	8⅜	2⅛	2⅞	½	2½	⅜

*Ex-dividend. †Unit of trading less than 100 shares. ‡Payable monthly and monthly stock dividend of one-half per cent. §Paid in lieu of regular cash dividend ot 2 per cent.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending August 22)

1931 High	1931 Low	Week ended Aug. 22 Sales	Week ended Aug. 22 High	Week ended Aug. 22 Low	Close Aug. 26	Stocks		Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
23	15½	1,800	19½	18½	..	Amerada Corp.	(sh)	922,075	N.P.	50cQ	4-30-31	43⅞	27⅛	42⅝	17½	31½	16½
12⅜	5	2,400	8⅜	7⅜	..	American Republics Corp.	(sh)	209,180	N.P.	....	12-31-30	85	51⅛	64¾	12½	37	5⅛
31	20	100	25⅝	23⅝	..	Associated Oil		$57,260,300	$25	35c	6-30-31	53⅜	37½	47¼	34½	51	30
23⅝	11⅛	28,500	18¼	16	17⅛	Atlantic Refining		$66,763,775	$25	25cQ	6-15-31	66⅜	50	77⅞	30	51⅜	16⅝
14½	5¾	35,900	9¾	8½	8⅞	Barnsdall Corp. A		$56,546,600	$25	25cQ	5-11-31	54	20	49⅛	20	34	8⅝
12	5	86,400	11¼	9⅝	10¼	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	12-15-27	..	..	47⅞	18	30½	7¾
47	15¼	9,000	23⅞	21	22½	General Asphalt	(sh)	413,333	N.P.	75cQ	6-15-31	94⅞	68	94¾	42¼	71½	22⅜
68½	27	15,800	47½	42¼	44	Houston Oil		$24,968,600	$100	....	10-17-30	167	79	109	26	116⅞	29¼
4⅝	2	3,100	3	2⅛	3⅛	Indian Refining		$12,564,070	$10	....	10- 1-30	39⅝	9	53	13⅛	17	2
4½	2	1,500	4⅛	2⅞	..	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	19¾	9⅜	18	7	12	3½
3¾	1	1,400	2⅞	2	..	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	25½	12½	18½	5⅛	10⅜	1⅜
16⅜	5¾	18,400	11¾	9¾	10¼	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	2-16-31	44½	25⅛	39⅞	22⅛	32	11
19½	7	60,800	13¾	10⅜	12¼	Ohio Oil	(sh)	6,648,052	N.P.	....	3-14-31	84	58½	79⅞	64¼	32	16
35⅛	25	No sales	..	..	..	Pan American P. & T.		$50,084,700	$50	40c	7-20-31	50⅞	38¼	69	40½	46½	42
36½	24	No sales	..	..	..	Pan American P. & T. "B"		$121,110,650	$50	40c	7-20-31	59⅞	37¾	69¼	40½	67¼	30
4¼	1½	2,100	2½	2	2	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	21¾	11½	15¼	3	12¾	1¾
20⅛	10	40	20⅛	14⅞	..	Panhandle P. & R. pfd.		$2,564,400	$100	....	.....	108	70	76	47½	20	47½
16⅝	4¾	88,700	10¼	8½	9⅞	Phillips Petroleum	(sh)	2,593,075	N.P.	....	1- 2-31	53⅞	35¼	47	24¼	44⅜	11½
1½	½	6,200	⅞	⅝	⅝	Pierce Oil Corp.		$29,622,831	$25	....	.....	5¼	½	3⅜	1	2½	½
3⅜	1	13,200	2½	1⅞	..	Pierce Petroleum	(sh)	2,500,000	N.P.	....	2-16-31	7	3½	5⅞	½	7⅛	1⅛
20⅜	6½	19,000	15½	11½	12⅜	Prairie Oil & Gas		$60,848,000	$25	....	3-31-31	68	46	65⅜	40½	54	11¼
26½	14⅝	10,400	18⅜	16⅜	17⅛	Prairie Pipe Line		$101,250,000	$25	75cQ	6-30-31	280	172	65	45	60	16⅝
6	1⅞	1,800	3¼	2⅞	..	Producers & Refiners		$37,438,950	$50	....	9-15-23	29⅞	16	25⅞	4	11⅞	1
16	6	10	9⅝	9⅝	..	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	49⅝	41	46¾	25½	40	11½
11⅞	5½	32,300	9⅞	8	9⅛	Pure Oil		$75,959,250	$25	....	9- 1-30	31⅝	19	30⅜	20	27¼	7⅝
6⅜	1	3,600	1⅞	1½	..	Richfield Oil (new)		$52,410,875	N.P.	....	.....	56	23	49⅝	20	9¾	4⅛
10¼	3⅛	30,500	5¾	4¼	5¼	Rio Grande Oil	(sh)	1,236,270	N.P.	....	7-25-30	37½	32	42½	15	25⅜	5
42⅝	24⅞	6,600	27⅛	26	25⅝	Royal Dutch N. Y.	(sh)	611,303	....	$1.3404	1-30-31	64	44⅝	64	43⅛	56½	36⅞
20¾	10⅝	No sales	..	..	14⅞	Seaboard Oil of Delaware	(sh)	1,244,383	N.P.	....	10- 1-24	72	45⅜	59⅜	8¼	37	9¾
34	17½	10	17½	17½	..	Shell Transport & Trading Co.		£23.985,000	£1	$0.966	7- 6-31	47⅞	41⅜	51½	40⅝	48⅜	26
10¼	4½	25,700	6⅞	5⅞	6½	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	39¼	23¼	31⅜	19	25½	5¼
11	5	7,800	9⅞	7	8½	Simms Petroleum		$8,353,620	$20	....	9-15-30	27½	18⅛	40⅛	15	37	5⅝
15⅞	6¼	181,900	12¾	11	11⅞	Sinclair Consolidated	(sh)	5,500,000	N.P.	....	4-15-31	46¾	17⅜	45	21	32	9¾
103	77	500	97	87½	98	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	5-16-31	110	102½	111	103	112¼	86
12⅞	3⅛	4,900	8⅛	7¼	7⅜	Skelly Oil		$27,441,250	$25	....	12-15-30	42⅝	25	40½	28	12	10⅛
21	17⅜	51,400	21	18¾	20	Socony-Vacuum	(sh)	31,923,072	$25	40cQ	9-15-31	..	..	..	..	..	..
51¾	31⅛	68,000	42	38½	41⅝	Standard of California	(sh)	12,594,098	N.P.	62½cQ	6-15-31	80	63	81⅞	51½	75	42½
19	8¾	4,600	14¼	13	13	Standard of Kansas		$8,000,000	$25	....	3-16-31	37¾	15	33⅜	18	49	14⅜
52½	30⅝	146,500	42½	39½	41⅜	Standard Oil of New Jersey		$634,999,200	$25	25cQ‡	6-15-31	59⅜	37¾	83	49	84⅞	32½
45¼	31	1,300	39⅞	37½	..	Sun Oil	(sh)	1,416,869	N.P.	25cQ	6-15-31	77	31½	68⅜	55	70	39
1¾	⅝	1,200	1	¾	⅞	Superior Oil Corp.	(sh)	766,979	N.P.	....	12-20-30	..	..	24	5¼	9⅜	¾
36¼	18	69,400	28½	24⅜	27¼	The Texas Corporation		$246,204,900	$25	50cQ	7- 1-31	74¾	50	71⅞	50	60½	28¼
6½	2½	4,800	5½	4½	5	Texas Pacific Coal & Oil Co.		$9,304,890	$10	....	12-31-29	26⅝	12⅛	23⅞	9½	14½	4
18	10½	200	13	13	..	Tide Water Oil	(sh)	2,191,759	N.P.	15cQ	6-30-31	41½	19⅝	40	14	31	13
83	50¾	2,200	67½	54¼	..	Tide Water Oil pfd.	(sh)	19,947,000	N.P.	$1.25Q	5-16-31	100⅛	86	97½	85⅛	94⅞	71
9	4	118,200	9	6⅞	8	Tide Water Associated	(sh)	5,560,424	N.P.	30cSA	2-16-31	25	14¾	23½	10	17¾	5⅞
68	38	2,300	62	50	53	Tide Water Associated pfd.		$73,284,500	....	$1.50Q	7- 1-31	..	..	90⅞	74⅛	89¾	55
26⅝	14	31,600	19½	16¾	18¾	Union Oil of California		$104,342,375	$25	50cQ	5- 9-31	58	42⅜	57	42⅛	50	10⅛
25⅛	20	1,400	21⅛	20½	..	Union Tank Car	(sh)	1,254,048	$100	40cQ	6- 1-31	128⅛	110	163¾	121⅞	38½	23
7¾	1⅝	400	3¾	3⅛	..	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	44⅞	26	42⅞	15	27	4¼
9⅜	3½	3,700	6¼	5	5½	Wilcox Oil & Gas	(sh)	428,907	N.P.	....	5-10-28	..	..	29¾	12⅞	21	6½

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus extra dividend of 25 cents.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

EASTERN MARKET IS STRONGEST IN MONTHS

(Continued from Page 83)

for the four weeks ended August 22. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	69,000
New York	678,000
Philadelphia	227,000
Others	60,000
Total	1,034,000
Daily average	147,714
At Gulf Coast ports—	
All ports	None
At Atlantic and Gulf Coast ports—	
Total	1,034,000
Daily average	147,714
Daily average four weeks	190,857

Distribution of total imports is as follows:

Crude	815,000
Gasoline	60,000
Fuel oil	159,000

Charter Market

Another uneventful week in the tanker charter market developed during the past week, and inquiry was exceedingly limited.

Reports of the closing of 10 or more cargoes of California gasoline for early shipment eastward led to reports that considerable intercoastal business was in the offing, but this demand has not as yet made its appearance, and it now appears likely that the movement of this gasoline will be in the tankers of the sellers, or purchasing companies.

Fixtures reported during the week were as follows:

Steamer Arcola (Italian), 3,893 net, Black Sea to two ports west coast Italy, 7s 3d, September.

Steamer Adellen (British), 4,735 net, part cargo tar, New York to French Mediterranean, lump sum, £3,000, September.

Steamer Athel (British), 8,000 tons, crude, Aruba to Mewday, p.t., September.

Steamer Oleander (British), 4,371 net, crude, Aruba to Teneriffe, 6s 6d, September-October.

Steamer Ulysses (American), 6,534 net, Gulf to north of Hatteras, 14½ cents, option Tampico loading, 17 cents, September.

LA.-ARK. FIELDS

(Continued from Page 41)

and Arkansas during the week, the former declining 85 bbls. and the latter 150 bbls. Daily average runs for the several pools were:

NORTH LOUISIANA

	Bbls.
Caddo, light	6,045
Caddo, heavy	1,580
Homer	2,650
Haynesville	5,100
DeSoto and Red River	2,235
Elm Grove	380
Cotton Valley	285
Urania	3,180
Pleasant Hill	370
Sarepta-Carterville	935
Zwolle	6,460
Holly	440
Total North Louisiana	29,650
Total previous week	29,735
Decrease	85

ARKANSAS

	Bbls.
El Dorado	3,190
Smackover, light	3,100
Smackover, heavy	26,540
Stephens	640
Nevada	1,000
Lisbon	510
Champagnolle	2,110
Urbana	200
Total Arkansas	37,290
Total previous week	37,440
Decrease	150
Total both States	66,940
Total previous week	67,175
Decrease	235

UNCERTAINTY RETARDS MARKETS IN CHICAGO

(Continued from Page 82)

a barrel. The 28-30 zero fuel oil, with little being offered, was 42½ to 47½ cents a barrel. The 32-36 industrial gas oil advanced to 1 and 1⅛ cents; 32-36 zero gas oil moved to a new range of 1¼ to 1½ cents, while 38-40 straw distillate advanced an eighth of a cent to 1⅜ and 1⅝ cents.

Upturn in Other Markets

While these influences are working to stabilize the gasoline markets, a scarcity among the other products and the edge of a seasonal demand were bringing a betterment into the other price structures. While kerosene has shown no advance in price, it is considered firm at the present levels and in line for an advance. The 41-43 water white kerosene is moving at 2 to 2⅛ cents, while the 42-44 water white material is an eighth of a cent higher.

ROCKY MOUNTAIN AREA

(Continued from Page 76)

NE, Section 16-46-64, set the 8¼-inch at 1,725 feet, and Bradley-Manewal's No. 10, SE NW, Section 20-46-63, is drilling at 1,000 feet. The Wytex Oil Co.'s No. 7 McCullough, NW SW NE, Section 23-46-64, found the sand at 1,796-1,825 feet and shot it. It bridged and is cleaning out and has the earmarks of being an exceptionally good well.

The Central Oil Co., composed of South Dakota capital associated with Hugh Updike, is drilling at 300 feet in its No. 1, NW cor., Section 26-46-64.

The Egaso Operating Co.'s No. 14, CEL SE NE, Section 17-46-63, is drilling at 300 feet.

MONTANA

Carbon County

The next completion in the Dry Creek Field in Carbon County is expected to disclose whether the structure is productive nearly a mile to the east of the discovery well drilled in more than a year ago. This will be the Carbon Oil & Gas Co.'s No. 1 Armstrong, SW cor. NW, Section 7-7s-22, which is coring at 4,574 feet in the first Frontier and showing considerable gas. Mark U. Weber, Charles E. Orchard and Joe Cook, all well-known oil men in this territory, are backers of this test. The Ohio Oil Co.'s No. 2 Montana Industrial, C NW NE (cor.), Section 11-7s-21, is digging cellar on the 40 to the north of No. 1 Montana Industrial which ran into a fault. Same company's No. 2 Souders, C NE SW (cor.), Section 2-7-21, also is digging cellar. The Ohio's No. 1 Chapman, C SW SW, Section 2-7-21, is drilling at 2,630 feet.

Glacier County

L. B. O'Neil, trustee for the Montana Power Co., is spudding in a new well in his No. 1 Teterug, CSL SW, Section 26-36n-5w, an outside location, a little more than a mile east of No. 1 Michaels, the discovery well. No completions were reported and the O'Neil drilling wells are as follows: No. 1 Henrickson, C SE, Section 35-36-5, drilling at 500 feet; No. 1 Peterson, C, Section 21-35-5, spudding at 300 feet; No. 1 State, C NE, Section 9-35-5, drilling at 500 feet; No. 2 Michaels, C SW NE, Section 33-36-5, drilling at 2,308 feet; No. 2 State, C NE SW, Section 33-36-5, drilling at 2,450 feet.

The Fulton Petroleum Co.'s No. 1 Blackfeet, SW NE NE, Section 28-36-12w, Milk River district, is drilling below 2,600 feet.

Liberty County

The California Co.'s No. 1 Utopia, SE SE, Section 11-33-6e, Utopia district, is drilling at 3,230 feet. At this depth it was trying to exhaust water. It had a slight show of oil. G. G. Howard's No. 2 Schoonover, C SE NE, Section 13-36-5e, Bear's Den, is spudding, and his No. 2 Ritter, C NE SE, Section 12-36-5, is standing with rig completed. The People's Oil & Gas Co.'s No. 1 First National Bank, C SE NW, Section 17-36-6e, is shut down at 1,285 feet waiting for fishing tools. The Liberty Oil Co.'s No. 1 McDowell, C SE SW, Section 13-36-5e, is drilling at 2,025 feet and carrying the 6⅝-inch.

Toole County

Oil Drillers, Ltd.'s No. 1 Farbo, NE SE SE, Section 3-37-4w, the only active operation in the Border Field, is drilling at 2,529 feet near the top of the Vanalta sand with a small show of oil and 500,000 feet of gas. The Oregon Oil Syndicate's No. 1, SW NE SE, Section 20-36-8w, Barthelote district, is spudding.

Teton County

The California Co.'s No. 1 Sullivan, NW NE NW, Section 34-27-7w, Bynum district, is drilling at 1,924 feet, and the Trans-American Oil Co.'s No. 1 Lackey, SE NE NW, Section 28-24-8w, Teton district, is standing recemented at 700 feet. The Earl Oil Corp., Ltd.'s No. 1 Gad, SE cor. NE, Section 22-22-8w, is resuming at 3,860 feet. It is still bottomed in the Colorado shale.

Rosebud County

The Prairie Oil & Gas Co.'s No. 1-XX Contr. 3, NE SW NW, Section 26-10-39, Porcupine Dome, is drilling at 1,620 feet in blue shale.

UTAH

The Utah Southern Oil Co.'s No. 1 Balsey, C NE NE, Section 31-23-21, Salt Valley, in Grand County, is assembling pipe and equipment to drill deeper. It has been standing at 3,500 feet in the Pennsylvanian where it made an average of 15 bbls. per day of 37 gravity oil on a test.

Pipe Line Runs

Average daily pipe line runs in week ending August 29:

WYOMING

	Bbls.
Salt Creek	23,140
Big Muddy	1,870
Byron	5
Dallas-Derby	310
Dutton Creek	....
Elk Basin	720
Ferris	....
Frannie	80
Grass Creek	2,300
Hudson	310
LaBarge	970
Lance Creek	850
Lost Soldier	2,930
Lovell	....
Oregon Basin	1,230
Osage	1,130
Rock River	1,860
Poison Spider	220
Simpson Ridge	50
South Casper	....
Teapot	10
Warm Springs	90
Total Wyoming	38,075

MONTANA

Buckley-Border	600
Cat Creek	920
Dry Creek	350
Kevin-Sunburst	4,410
Lake Basin	70
Pondera	1,570
Total Montana	7,920

COLORADO

Florence	340
Fort Collins	870
Iles	1,240
Moffat	860
Orchard	320
Rangely	20
Tow Creek	300
Walden	30
Total Colorado	3,980

NEW MEXICO

Rattlesnake	700
Hogback	500
Table Mesa	75
Artesia	197
Cap Rock	205
Getty	....
Hobbs	37,062
Jal	1,112
Lea City	2,120
Eunice	486
Total New Mexico	42,457
Total Rocky Mountain area	92,432
Total previous week	89,742
Difference	2,690

OKLAHOMA FIELDS

(Continued from Page 38)

to produce 3 per cent of its potential which was rated at approximately 4,880,000 bbls. in one day and which has been increased since that time with new wells. The South Wilcox sand pool, to produce 10 per cent of its potential which was 647,800 bbls. a day on the last test.

Activity in the Field

Oklahoma City Field continues to be the most active area in the State. New wells are being completed every week. Wells completed during the week were as follows: Champlin Refining Co. and Hall & Briscoe's No. 4 Central, SW cor. NW SE, Section 3-11-3w, was estimated at 35,000 bbls. of oil a day with 40,000,000 feet of gas a day. It was allowed to flow approximately seven minutes making 130 bbls. of oil during that time before damaging the connections, forcing a shutin. It will be opened for the eight-hour initial gauge when the repairs have been made. The oil and gas were found in the Wilcox sand at 6,280-6,406 feet. It was the last test the Champlin Refining Co. had in the Oklahoma City Field.

Phillips Petroleum Co.'s No. 1 Leverish, NE cor. SE SW, Section 10-11-3w, completed its initial flow by making 4,323 bbls. of oil in 3 hours and 45 minutes. The well has made a total of 9,489 bbls. of oil in the eight hours allowed all new wells in the Oklahoma City Field. The oil was found in Wilcox sand at 6,360-6,545 feet.

Tom Slick Oil Co.'s No. 1 Long, SW cor. NW SE, Section 15-11-3w, on the west side of the field, flowed 6,640 bbls. of oil in the first eight hours. The gas flow gauged 135,000,000 feet a day. The oil and gas was found in the Wilcox sand at 6,417-6,516 feet.

Several recently completed wells on the west side of the field in Section 15-11-3w, have found the gas pressure so great that it has been necessary to install additional separators. The high gas pressure is believed to be hindering the flow of oil from some of the wells.

Westgate Oil Co. and Continental Oil Co.'s No. 3 Carey, SE cor. NW SE, Section 34-12-3w, in the extreme north end of the Oklahoma City Field, which extended production to the west, flowed a total of 27,361 bbls. of oil in 7 hours and 35 minutes, since being completed. On a 24-hour gauge the well would flow at the rate of 80,000 bbls. of oil a day making it one of the largest producers in the field. It is flowing through 9-inch casing, with 45,000,000 feet of gas a day. It is being produced with a back pressure of 475 pounds.

No Surface Waste

During the week Otto Bradford, umpire in the Oklahoma City Field, has been making daily inspection trips. The purpose of these trips is to inspect the connections and the hookups on the different wells. The tank batteries were looked over and found to be in good shape. There were only a few leaks and no large ones found on any of the tanks and there was only a small amount of oil standing in slush pits in the field. Daily observations are being made throughout the field by members of the National Guard.

It is estimated in the north end of the Oklahoma City Field, the wells have an average of 1,800 pounds rock pressure in the Wilcox sand, but in the south end of the field, where most of the wells are old producers, the rock pressure is between 450 and 1,200 pounds.

One month after Governor Murray issued the shutdown order which affected all the prorated areas in the State, there is in lease storage in the Oklahoma City Field approximately 335,000 bbls. of oil. At the time the shutdown was issued there was approximately 820,000 bbls. of oil in storage on the leases.

New locations in the Oklahoma City Field have declined but since the new completed well in Section 15-11-3w, it is expected a number of new locations will be announced on the southwest edge of the field and on the north side when the governor lifts the shutdown order. Some estimate that more than 100 wells can be drilled on proven acreage in the field.

August Production

The Oklahoma City Field has produced a total of 688,970 bbls. of oil during the four weeks ending August 29. The four days previous to the governor's shutdown order it produced 550,210 bbls. of oil. During the shutdown period the field has averaged approximately 5,000 bbls. a day, with 10 wells open each day.

There have been 15 wells completed during the month that flowed a total of 103,210 bbls. of oil. The field has a total of 826 wells, 25 of which are drilling and 29 are locations and rigging up to spud. The total recovery from the field to the time the governor ordered all the prorated areas shut in, was approximately 72,000,000 bbls. of oil since December 4, 1928.

New Well in Tatums Field

Another well was added to the Tatums Field during the week and it is believed to be one of the largest wells completed in the field. The completion of the well brought to a close all activity in the district for the first time in two years. Carter Oil Co.'s No. 4 Wirt Franklin, C NE NE Section 24-1s-3w, was completed

for 2,330 bbls of oil the first 24 hours. The oil was found in broken sands at 1,860-2,063 feet. The total depth of the well is 2,113 feet. It was shut in under Governor Murray's shutdown order.

In Stephens County three tests were resuming drilling operations, bringing activity in that district to the highest in recent months. George Pace's No. 1 B. Toney, NW cor. Section 27-2s-7w, a wildcat east of the town of Comanche, was drilling at 1,725 feet with nothing showing. J. C. Chambers and others' No. 1 M. Dare, SE cor. NW SE Section 2-2-8w, on the north side of the Comanche Pool, was drilling at 4,000 feet. The Duncan-Wichita Falls Pipe Line Co.'s No. 7 Tucker, NE cor. SE SE NW Section 34-1s-8w, is an old producing gas well drilling deeper at 1,865 feet. H. J. Brown and K. S. Drilling Co.'s No. 1 Hightower, SW cor. SE NE Section 15-3s-5w, had sand at 935-45 feet, and were preparing to swab.

In Grady County the Watchorn Oil & Gas Co.'s No. 1 Burnett, SW cor. Section 12-4-8w, was testing a showing of gas at 2,217 feet. Casing was being landed and the test will be bailed down in a few days.

New production areas were added to Creek County by the completion of two wells near Mannford, in the northern part of that county. M. S. Hughes and others' No. 2 Flinchin, NE cor. SW SW Section 11-19-9, started flowing 200 bbls. of oil a day from the Dutcher sand at 2,387 feet. A. A. Bailey and others' No. 1 Weaver, NW cor. SW Section 18-19-9, was estimated to be a 50-bbl. well from the Burgess sand. These wells add considerable territory for future development.

The largest gas well ever completed in the Oklahoma Panhandle is Cimarron Utilities Co.'s No. 1 Safranko, C SE Section 1-3-14 e.c.m., located 4 miles north of Guymon, gauging 22,200,000 feet of gas a day with 428 pounds rock pressure. It is the largest gas well yet completed north of Moore County Field in Texas.

Greater Seminole Production

The production from the Greater Seminole area for the week ending August 28 was approximately 68,655 bbls. The first 12 pools listed below comprise the Seminole area which averaged 44,350 bbls.:

Pool—	Bbls.
Little River	10,565
East Little River	1,665
Carr City	5,490
Maud	940
Mission	2,045
Bowlegs	4,845
Earlsboro	8,805
South Earlsboro	3,285
East Earlsboro	2,115
Seminole	1,035
East Seminole	1,025
Searight	2,535
Total	44,350
Allen	3,085
Asher	415
Wanette	1,810
Konawa	1,330
Sasakwa	3,680
St. Louis-Pearson	13,985
Total	68,655

Oklahoma City Shipments

The total shipments from the Oklahoma City Field for the week ending August 29 were 65,139 bbls., an average of 9,305 bbls. a day. The shipments declined 13,368 bbls. from the previous week. The shipments by companies were as follows:

Company—	Bbls.
Continental	19,481
Empire	492
Magnolia	33,574
Crude Oil Pipe Line	5,789
Healdton Pipe Line	2,945
Anderson-Prichard	187
Wilcox Oil & Gas	1,910
Sinclair	761
Total	65,139

The daily production and pipe line shipments from the Oklahoma City Field for the week ending August 29 were as follows:

Date—	Prod.	Wells	Shipments
August 23	11,046	9	10,030
August 24	496	7	2,487
August 25	4,790	8	15,738
August 26	7,714	8	11,238
August 27	8,509	11	9,219
August 28	16,008	12	8,499
August 29	4,069	11	4,928

Carter County

Carter Oil Co.'s No. 4 Franklin, NE cor. NE, Section 24-1s-3w, has been completed for 2,330 bbls. in sand 1,859-2,063 feet, total depth 2,113 feet. Gwinn and others' No. 1 Burton, C S half SW, Section 30-1s-2w, made 130 bbls. on swab in broken sands 2,218-2,337 feet, total depth 2,406 feet.

Creek County

Dean and others' No. 1 Boyd, CWL E half NW, Section 30-19n-1e, is a location. Abbott, Dean and others' No. 1 Schinler, SE cor. NW NW, Section 1-19n-8, is dry and abandoned at 2,868 feet. Hollifield and others' No. 1-A Johns, SE cor. SW SE, Section 4-17-n-10, has been completed for 2,500,000 feet of gas in sand 1,085-1,100 feet.

Kay County

Summit Drilling Co. andothers' No. 1 Hays, NW cor. NE NW, Section 24-28n-3, is dry and abandoned at 3,630 feet.

Murray County

Capital Producers & Refining Co.'s No. 1 Cutchall, SE cor. NE, Section 6-1n-2e, is a rig on ground.

Muskogee County

Hash and others are rigging up for their No. 1 Grayson, NW cor. SE, Section 35-16n-15e. J. E. Rose and others' No. 12 Howard, SW cor. NE NE NE, Section 30-15n-16e, has been completed for 750,000 feet of gas in sand 1,248-58 feet, total depth 1,320 feet. Western Drilling & Electric Co.'s No. 1 Dills, SW cor. SW, Section 4-15n-18e, has been completed for 12 bbls. in sand 975-90 feet, total depth 1,043 feet.

Oklahoma County

Ocate Oil Co.'s No. 2 Smith, SE cor. NE NW, Section 15-11n-3w, is a cellar. Ocate Oil Co. has made location for No. 3 Smith, SE cor. NE SE NW, Section 15-11n-3w. Phillips Petroleum Co.'s No. 1 Clift, SW cor. NW NW NE, Section 3-11n-3w, made 8,396 bbls. in four hours' flowing through a 4-inch choke at a total depth of 6,500 feet. Wilcox and Marshall's No. 1 Martin, CNL SW NW NW, Section 1-11n-3w, made 2,468 bbls. in four hours at a total depth of 5,480 feet. Phillips Petroleum Co.'s No. 1 Leverish, CNL S half SE SW, Section 10-11n-3w, made 5,166 bbls. in four hours flowing through a 6-inch choke at a total depth of 6,546 feet. Skelly Oil Co.'s No. 1 Spencer, NE cor. NW SE, Section 15-11n-3w, has been completed for 8,183 bbls. in five hours at a total depth of 6,494 feet.

Okmulgee County

W. B. Pine and others' No. 4 Shepard, NW cor. NW, Section 29-12n-14e, is an old well drilling deeper at 2,848 feet.

Osage County

W. H. Twyman and others' No. 2, NW cor. SE, Section 32-22n-8e, is a location. Oklahoma Power & Water Co.'s No. 133, NW cor. NE, Section 26-21n-9e, is drilling at 285 feet. Oklahoma Natural Gas Corp.'s No. 1839, NW cor. SE SW NW, Section 26-21n-11e, is drilling at 1,300 feet. Peters and Producers & Refiners Corp.'s No. 7, C SW, Section 22-27n-11e, has been completed for 1,500,000 feet of gas in sand 1,907 feet. Peters Petroleum Co.'s No. 6, NW cor. SW SE, Section 22-27n-11e, has been completed for 3,500,000 feet of gas in Burgess sand 1,829-55 feet. Petroleum Drilling Co.'s No. 18, NE cor. NW NW, Section 25-26n-8e, an old well drilled deeper, has been completed for 600,000 feet of gas in sand 1,182-88 feet. The Texas Company's No. 9, CNL S half NW, Section 36-23n-10e, is dry and abandoned at 2,182 feet. L. G. Stanley and others' No. 4, SW cor. NE NE, Section 14-21n-8e, is dry and abandoned at 2,386 feet. Oklahoma Power & Water Co.'s No. 132, NW cor. NE, Section 18-21n-9e, is dry and abandoned at 2,572 feet. Oklahoma Natural Gas Corp.'s No. 1838, NW cor. SW, Section 25-21n-11e, is dry and abandoned at 1,742 feet. Oklahoma Power & Water Co.'s No. 131, SW cor. SE, Section 23-20n-10e, is dry and abandoned at 2,757 feet.

Pawnee County

Stanley Brewer and others' No. 1 Kilpatrick, NE cor. SE NE, is dry and abandoned at 2,984 feet. Ramsey and others' No. 1 Dickinson, SE cor. SW NW, Section 1-20n-8e, made 5 bbls. in sand 936-50 feet. J. L. Essley and others' No. 1 School, SW cor. NE SW, Section 13-20n-9e, is dry and abandoned in lime at 2,425-40 feet. T. E. Harris and others' No. 1 McCollum, SE cor. NW NW, Section 14-20n-9e, is dry and abandoned at 962 feet. Sikes and others' No. 4 Copeland, NW cor. SE SW, Section 26-20n-9e, made 15 bbls. from Red Fork sand 2,096-2,131 feet. Cimarron Oil Co.'s No. 3 Smelzer, SW cor. NW NW, Section 29-20n-9e, is dry and abandoned at 2,410 feet. John Wilson and others' No. 1 Eaton, CNL NW SW SW, Section 19-20n-10e, had a hole full of water at 2,100 feet.

Pittsburg County

J. E. Weible and others' No. 1 Smith, SE cor. NE NW SE, Section 5-8n-16e, is a location.

Rogers County

Braman Oil Co.'s No. 1 J. Mure, C SW SE, Section 33-19n-17e, is dry and abandoned at 960 feet.

Texas County

Cimarron Utilities Co.'s No. 1 Safranke, C SE, Section 1-3n-14ECM, made 22,200,000 feet of gas in sand 2,685-2,715 feet, total depth 2,725 feet.

Wagoner County

E. Mills and others' No. 1 Porter, NE cor. NW NE, Section 7-15n-17e, is a machine on the ground. Brasheers and others' No. 1 Watson, SE cor. SW NE, Section 31-18n-17e, is dry and abandoned at 1,068 feet.

HEARING ON TEXAS PRORATION RULES

(Continued from Page 79)

ing still lower reservoir pressures in areas already low."

He testified it would be difficult to determine the potentials and gave, as an example, the Lathrop area in which he said 75 per cent of the wells will make a limited amount of oil on account of the size of the pipe; if open flow is used in these wells it would create a high differential pressure in the reservoir of adjacent wells and cause unnecessary speed in the movement of the oil to the well resulting in waste. "If restricted to tubing," he said, "95 per cent of the wells would limit the amount of oil that could get through the choke under pressure and would not give the actual amount of oil the well could produce."

Uniform Pressure

"If the field is restricted according to acreage," continued Mr. Millikan, "you would come near approaching the ideal condition; withdrawals would be more restricted and this would tend to obtain uniform pressure which is essential in the operation of the field. It is the most practical method and will create more of equity for all concerned."

Mr. Millikan agreed that the spacing of all subsequent wells 660 feet apart would be adequate.

His theory of slow encroachment of water is based upon the technology learned in the Bradford Field and has been confirmed in laboratory tests. In no other field has the artificial water lift been used extensively, he said. Plugging of wells can result in shutting off oil as well as water.

It is possible for physical waste to exist in the East Texas Field without it now being apparent or visible, Mr. Millikan told Mr. Hardwicke in conclusion of his testimony. However, he added, waste now being caused will soon be apparent.

J. R. McWilliams on Stand

Seven rebuttal witnesses to corroborate the testimony of Mr. Foran and Mr. Millikan were presented to the commission at the close of the hearing. J. R. McWilliams of Tulsa, production engineer for the Skelly Oil Co., testified that the oil-gas ratio in East Texas is not as important as the water drive and that a per well basis for distribution of the field allowable is not proper because the densely and sparsely drilled area would cause variations in underground pressure and cause waste.

"In my opinion, it has been made very plain to this commission that the water menace can be controlled by the rate of withdrawal of oil," Mr. McWilliams declared.

W. K. Whiteford as Witness

W. K. Whiteford of Tulsa, general superintendent of the Barnsdall Oil Co., supported Mr. Foran's and Mr. Millikan's testimony, advocating a 225,000-bbl. daily allowable with a maximum of 200 bbls. any one well could produce. F. C. Sealey, assistant division manager for The Texas Company in the East Texas Field, likewise supported the experts' testimony and urged the allowable to be based on an acreage unit basis.

Francis E. Heath of Dallas, geologist for the Sun Oil Co., said Mr. Millikan's recommendation of 225,000 bbls. allowable "would cause a minimum amount of waste."

S. A. Guiberson's Testimony

S. A. Guiberson, Jr., of Dallas, told of evidences of actual waste in the field before production was stopped and declared plugging of wells in the Woodbine sand to shut off water has not been satisfactory "and is practically impossible other than as a temporary measure." Uniform and slow withdrawals has maintained the reservoir pressure in the Mexican field and in the Yates Field in Texas, he said, in advocating a low allowable evenly distributed over the entire East Texas Field through an acreage unit basis. He said he did not believe the commission could set one oil-gas ratio that would be efficient for all wells in the field, but that a maximum allowable oil-gas ratio could be set "to safeguard the field against a few who would waste the entire energy in the field to produce a couple of barrels of oil for themselves."

"I know that the evidence that at low flows the oil and gas ratio is higher is wrong and every engineer who put it on knows it, too," Mr. Guiberson told Commissioner Neff regarding gas wastage.

W. E. McKinney of Tyler, independent operator, urged an acreage basis with a maximum of 200 bbls. for any one well in corroborating testimony of Mr. Foran and Mr. Millikan.

C. F. Roeser, Fort Worth independent, the last witness, advocated an acreage basis in distribution of the allowable and a maximum of 200 bbls. for any one well.

Col. J. Lewis Thompson of Kilgore expressed hope for relief when the order is issued and urged an allowable of 250,000 bbls. on an acreage basis.

OUTLINE UTILIZATION OF REFINERY GASES

(Continued from Page 26)

tions controlled by separate rheostats. In this way a 50 c.m. cracking zone with a temperature uniform to within 5° C. was obtained. The cracked gases issuing from the tube passed through an electric precipitator in which the suspended tar was collected, through a condenser immersed in a solid carbon dioxide—acetone bath liquefying the volatile liquid hydrocarbons, and finally into a receiver. When large amounts of material were handled, a wet test meter was used. When a run was completed, the volatile liquid hydrocarbons dissolved in the tar and were distilled into the condenser. This was accomplished by connecting the tar precipitator to the condenser, still immersed in the cooling bath, and by reducing the pressure to 2 m.m. of mercury by a vacuum pump connected to the exit of the condenser. The tar in the precipitator was gently boiled for 10 minutes. The tar that volatilized was allowed to condense on the walls of the precipitator while the vapors, uncondensed at room temperature, were driven over into a condenser. A fractiona. distillation of the oils had shown that the components boiling between xylene and naphthalene were present in such small amount under high yield conditions that the separation of xylene and lower hydrocarbons from the tar was fairly sharp and reproducible.

"The tar collected in the tar precipitator was estimated by weighing and to the weight was added that of the tar deposited in the exit end of the cracking tube.

"Carbon formed in the cracking zone was determined by burning to carbon dioxide at 550° C. in a stream of oxygen, absorbing in soda lime and weighing.

"The time of contact was calculated from the volume of the section of the silica tube at cracking temperature and the flow rate of the gas at the temperature of the reaction. A volume increase

took place during the reaction, but since the increase occurred in the brief initial decomposition, the average flow rate was assumed to be that of the products leaving the cracking zone.

"While an even temperature was shown by a shielded thermocouple used to explore the temperature of the gas stream during mild cracking, appreciable errors were sometimes incurred. During most of the experiments, temperatures were taken only by four thermocouples spaced at equal intervals along the outside of the silica tube. Effects due to heat of reaction caused an appreciable temperature drift during experiments at the higher temperatures, and this, as well as the increased rate of heat transfer, decreased the accuracy of the time and temperature values, especially at the higher temperatures. Such errors are not serious, since the reaction is not responsive to small differences in time and temperature under the conditions which produce aromatic hydrocarbons.

Since other investigators had placed the most emphasis on the temperature factor, it appeared desirable to conduct experiments of an exploratory character to study the effect of independent variation in time as well as temperature. A gas of the composition

	%
Methane	18.6
Propane	44.7
n-Butane	32.7
Isobutane	4.0
Total	100.0

was cracked at several temperatures, namely 700°, 750°, 850° and 950°, and propane at 1,050° C. Several flow rates were used at each temperature. The results obtained with propane are entirely comparable, as will be shown, with those obtained using the gas mixture, since the average molecular weight and carbon—hydrogen ratio are the same. Because of the wide range of cracking times covered, it was necessary to select silica cracking tubes ranging from 25 m.m. diameter for the lower temperatures to 2 m.m. for the highest. A simplified type of experiment was deemed adequate in which only the volume change of the gas due to cracking and the concentration of volatile liquid hydrocarbons were determined, for the purpose of calculating the yield of volatile oils, essentially benzol, as later experiments show.

"Since these runs showed that a variation in time or in temperature gave equivalent results in respect to yield of volatile oils over a rather wide temperature range, and intermediate temperature, 850° C. was selected for a series of experiments in which the time factor alone was varied and more complete data taken. The gas subjected to cracking was the same as that used for the preceding experiments. Sufficiently large quantities of gas were cracked to give several grams of liquid products in each experiment. Tar and volatile oils were collected and measured separately and the gases were analyzed. The data are shown in Table 1.

TABLE 1—CRACKING OF GAS MIXTURE AT 850° C. WITH VARYING TIME OF CONTACT

	Run number					
	1	2	3	4	5	6
Time of contact in minutes	0.0025	0.006	0.010	0.042	0.08	0.40
Volume ratio inlet gases to exit gaseous products	1.8	1.8	1.9	2.1	1.8	2.2
Yields (per cent by weight) volatile oils	3.0	8.1	9.4	14.2	13.5	8.7
Tar	0.2	1.4	1.9	8.5	12.5	14.7
Carbon	0.02	0.13	0.10	0.60	1.3	11.5
Analysis of gaseous products (per per cent by volume):	Fractional analysis			After removing benzol		
CO_2	‡0.0	‡0.0	(*)	†0.0	†0.0	†0.0
N_2	3.4	5.7	(*)	3.1	7.6	0.5
O_2	0.6	0.0	(*)	0.7	1.4	0.6
H_2	12.3	13.2	(*)	18.5	18.4	25.9
CO	0.0	0.3	(*)	0.7	0.3	0.0
CH_4	32.8	41.3	(*)	48.5	58.0	63.5
C_2H_4	22.6	26.6	(*)	...	...	...
C_2H_6	5.2	3.3	(*)	5.8	0.0	0.0
C_3H_6	10.7	3.8	(*)	...	...	...
C_3H_8	7.2	4.7	(*)	...	...	...
C_4H_8	1.5	0.9	(*)	...	...	...
C_4H_{10}	1.8	0.2	(*)	...	...	...
Higher hydrocarbons	†1.9	...	(*)	...	...	...
Unsaturates	...	...	(*)	22.7	14.0	9.5
Total	100.0	100.0		100.0	100.0	100.0

*No analysis. †Volatile oils present.

Liquid Products

"During the early part of the oil forming stage of the reaction the yield of volatile liquid products increased rapidly, accompanied by a rather rapid decrease in gaseous olefins, then became constant during the period 0.03 to 0.08 minute while the olefins decreased more slowly. The volatile oil was associated with very litte tar during the early stages of its formation, but tar formation accelerated after a large proportion of volatile oils had formed, due, no doubt, to the formation of tar from the latter. Carbon formation became marked at a still later stage and accelerated only when much tar had formed, due to its formation in turn by the degradation of tar. The volatile oils first formed contained unsaturated hydrocarbons but the oil surviving the longest exposure time of 0.40 minute crystallized partly at 0° C. and consisted almost entirely of benzene. The effect of change in time on the composition of the volatile liquid products is shown in more detail in a later section.

Portions of tar from Runs 3, 5 and 6 were dissolved in five volumes of pyridine and to the solution was added an equal volume of pentane. The tar from a 0.01 minute exposure gave no precipitate, but tar from the 0.08 and 0.40 minute exposures gave increasingly heavy precipitates, presumably of aromatic hydrocarbons of high molecular weight.

Heat of Reaction

"From the heat of formation of the reactants and products the variation in heat content through the cracking period was calculated, assuming a constant temperature of 850° C. About 650 calories per gram were required to heat the uncracked gas to reaction temperature, after which the rapid primary decomposition took place with absorption of heat followed by the slower oil forming reactions with evolution of heat. The point of maximum heat content corresponds to the formation of a maximum concentration of gaseous olefins at an exposure time of about 0.0025 minute. The exothermic heat developed between 0.0025 and 0.08 minute was about 190 calories per gram, enough to raise the temperature about 200° C."

Another paper presented on the subject of utilizing refinery and gasoline plant gases explained how these gases could be dissociated into simpler gases of value during the manufacture of carbon black. The paper described the operation and results of such a plant of the Thermatic Carbon Co. at Sterlington, La. The paper was presented by Robert L. Moore, chief chemist. Here the principal product from the operation is carbon black but the thermotomic process used is of special interest because of the fact the resultant gas contains a high percentage of hydrogen. The use of this hydrogen is of particular concern to those refining companies interested in the hydrogenation of petroleum oils. Although the immediate application of the hydrogenation process is economically restricted, development work continues to go on and anything that promises to become a factor in its operation received the attention of refinery technicians. In the paper read by R. L. Moore, the following chemical analyses of the natural gas and the resultant gas were summarized as follows:

	Pct. by volume	
	Natural gas	Resultant gas
Carbon dioxide	0.4	0.9
Illuminants	0.7	1.3
Hydrogen	...	85.4
Carbon monoxide	...	1.1
Methane	93.8	5.0
Nitrogen	5.1	6.3

In summarizing the results and the possibilities of the process and its application to the refiners' future needs he said:

"The gas produced by the thermotomic process is of especial importance at the present time because of the interest in the hydrogenation of petroleum, the reforming of natural and refinery still gases, as well as the synthesis of ammonia and methanol. This gas can be readily produced at any location desired from any gaseous or liquid hydrocarbon and does not present any new problems in purification. The fact that the cracking units are long lived and free from troublesome complication of operation has been proved by nine years of commercial production with natural gas in Louisiana where over 100,000,000 pounds of carbon and 12,000,000,000 cubic feet of hydrogen have been manufactured."

Cyclic Process

Similar results were obtained by a "Cyclic Process" explained in a paper written by C. O. Hawk, P. G. Golden, H. H. Storch and A. C. Fieldner, of the U. S. Bureau of Mines regarding work done at the Pittsburgh, Pa., experimental station of the bureau.

The process utilizes the reactions:

$$CH_4 + H_2O \longrightarrow CO + 3H_2$$

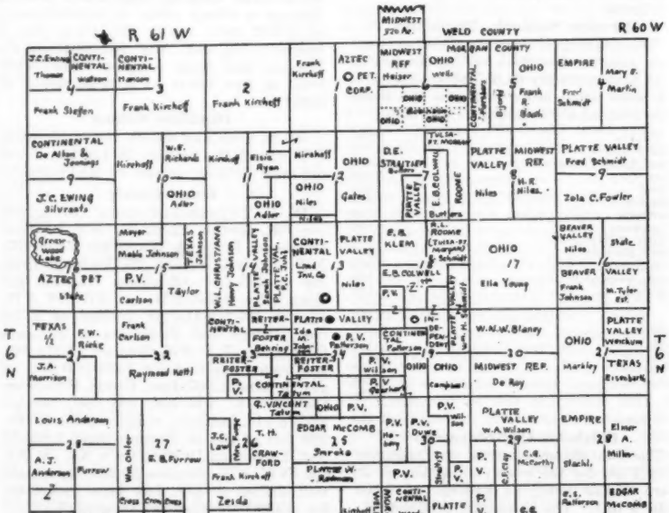
$$CH_4 + CO_2 \longrightarrow 2CO + 2H_2$$

The authors stated, "In this process the heat of reaction is supplied to the gases by a catalyst bed, heated to reaction temperature by blasting with an air-gas flame. Catalysts can be prepared for this purpose which are quite durable, and will consistently produce conversions near the calculated equilibrium values. Optimum experimental conditions have been determined for producing maximum conversions and minimum contamination by the products of side reactions in the temperature range 900 to 1,100° C."

HIGH GRAVITY WELL IN GREASEWOOD DOME

(Continued from Page 24)

thick. Upon the completion of such a well, the Reiter-Foster company was to receive a half-interest in the lease. Similar agreements were made in regard to the other wells. The No. 1 Ida Johnson then was spotted 1,000 feet to the north of the discovery and drilling was started May 8 with rotary equipment by Manning & Terry, Inc., contractors. Excellent progress was made until an attempt was made to cement the 9⅝-inch at 6,226 feet when circulation was lost and the pipe was filled almost to the top. Again, when the 7-inch was cemented at 6,635 feet, 1,600 feet of the cement remained



Ownership map of area around new well of Reiter-Foster Corp. in Weld County, Colorado.

inside the pipe, having set before all of it could be forced behind the string. On account of these difficulties, more than 13,000 feet of hole was drilled. It is now believed that the problem has been solved and immense quantities of ice will be used in mixing the cement in the Continental Oil Co.'s No. 1 Briggs to hold down the temperature.

High Temperature

In No. 1 Ida Johnson, the temperature at the bottom of the hole at 6,642 feet was 215° F. When the oil came in it

dropped rapidly to 170 degrees. The oil comes from the well cold at a temperature of 50 degrees. The surface elevation of No. 1 Ida Johnson is 4,627 feet, or 18 feet lower than the discovery well. The records indicate that the pay was found practically at the same elevation above sea level. The Ida Johnson well apparently found the pay in a sand just above the caprock to the first sand in the Dakota formation and this cap is believed to have been cracked. Whether the Muddy sand (referred to as the first in the Dakota series in some of the fields in this area) is in place or missing at Greasewood, is a moot question.

The Continental Oil Co., which owns considerable acreage on the dome, is drilling two wells and the Reiter-Foster company is drilling another and several rigs are up. Status and location of these wells is given in the regular report for this area elsewhere in this issue. Upon completion of the Ida Johnson well, Mr. Ache received numerous telegrams of congratulation from all parts of the country. One of these, significant as to the attitude of the industry towards the bringing in of a new field, after offering congratulations, added: "For God's sake, don't open another East Texas and don't deepen well. One dollar and fifty cent oil by Christmas in prospect." It was signed by a prominent operator.

Mr. Ache said the field will be produced as market requirements in the Rocky Mountain area present themselves and that it will be handled conservatively. "It will not be placed in competition with Mid-Continent crude and no markets will be destroyed," he continued. "We do not anticipate any wild drilling campaign and are hopeful of being able to unitize the area."

A few days before the well came in, Frank E. Kistler, founder of the Producers & Refiners Corp., which subsequently was sold to the Prairie Oil & Gas Co., was elected chairman of the board of the Reiter-Foster company. The bringing in of the well was witnessed by several thousand people, more than 500 cars being parked around the well outside of the roped-off area.

An ownership map of the field is shown herewith. The geological work on the structure was very difficult, due to the younger covering and the absence of outcrops, and much more drilling will be required before its size and trend are definitely determined, but some estimates place the producing territory at as high as 50,000 acres. This is exclusive of the other structures in the district which are receiving attention.

Much of the credit for the opening up of this field is due to the men who organized the Platte Valley company and for five years struggled through innumerable difficulties to bring in the discovery well. That was part of the task of proving a new field, however, for one well drilled under such circumstances tells only a part of the tale at a time when the major companies did not want any new discoveries.

The Reiter-Foster company, under the management of Paul Ache, put into the development some of the old-time romance of the west. Mr. Ache has been a firm believer in the possibilities for oil in Colorado for the past 10 years and drilled at Red Rocks and Hiawatha and was instrumental in having several other large companies wildcat in the State. A hard proposition was faced when the contract with the Platte Valley company was under negotiation. Several wells were required. The drilling was deep and represented $150,000 per well, at least. Reiter-Foster had had 2,000 bbls. per day of production shut in since January 1. Cash in the treasury was low but with the grit characteristic of the West, Mr. Ache went ahead and signed the contract. The supply companies, the railroads, the drilling contractors, and even the tool pushers extended every facility they could offer. Saturday night, two days before the well came in, Reiter-Foster paid in full every obligation incurred in the operation and when the well came in there was every reason for the congratulations which had poured in.

BIG MERGER PASSES PRELIMINARY STAGES

(Continued from Page 23)

cracking process and other processes which have added to its manufacturing and efficiency has given it a dominant position in the field of specialty products. One of its major revenue sources over the past four years has come from its half interest in the Ethyl Gasoline Corp. which controls the manufacture and distribution of Ethyl Gasoline. The company also controls the hydrogenation process in America.

The California Standard company has also been active in practical research and development of oil manufacturing processes. In the cracking end, with the Shell Oil Co. of California, it now controls the Universal Oil Products Co., owner of the Dubbs process, the most widely licensed of all of the processes for high temperature and pressure distillation.

NEGOTIATIONS TO CONTINUE

NEW YORK, Sept. 1.—Resumption of merger negotiations between Standard Oil Co. (New Jersey) and the Standard Oil Co. of California will be held in New York following further discussion among executives of the two companies, it is reported here with the return of W. C. Teagle, president, and other officials of the New Jersey company from their recent conference at Lake Tahoe, Calif., with K. R. Kingsbury, president, and other Standard of California executives.

REFINERIES IN THE UNITED STATES AND CANADA INVOLVED IN PROPOSED MERGER OF STANDARD OIL CO. (NEW JERSEY) AND STANDARD OIL CO. OF CALIFORNIA

Standard Oil Co. of California

UNITED STATES

Company and location—	Barrels: Crude oil capacity	Barrels: Cracking capacity
Standard of California:		
Richmond, Calif.	100,000	18,000
El Segundo, Calif.	100,000	36,300
Bakersfield, Calif.	25,000	....
Pasotex Petroleum Co.:		
El Paso, Tex.	14,000	3,800
Total	239,000	58,100

Note—Standard Oil Co. of California also owns controlling interest in Col-Tex Refining Co. which operates a refinery at Colorado, Tex., with a crude oil capacity of 10,000 barrels daily and a cracking capacity of 3,000 barrels.

Standard Oil Co. (New Jersey)

Standard (New Jersey):		
Bayonne, N. J.	88,000	45,000
Linden, N. J.	75,000	113,837
Jersey City, N. J.	17,000	....
Charleston, S. C.	15,000	20,444
Baltimore, Md.	32,000	43,597
Parkersburg, W. Va.	5,000	9,131
Total	232,000	232,009
Humble Oil & Refining Co.:		
Baytown, Tex.	125,000	143,000
Chilton, Tex.	4,500	....
McCamey, Tex.	15,000	15,000
Neches, Tex.	5,000	....
Ingleside, Tex.	15,000	15,000
San Antonio, Tex.	4,500	....
Breckenridge, Tex.	1,050	....
Total	170,500	173,000
Colonial, Beacon Oil Co.:		
Everett, Mass.	28,000	22,000
Standard of Louisiana:		
Baton Rouge, La.	100,000	65,000
Grand total—United States	769,500	550,109

CANADA

Imperial Oil, Ltd.

Imperial Oil, Ltd.:		
Calgary, Alberta	5,000	3,800
Ioco, British Columbia	16,000	3,600
Halifax, Nova Scotia	17,000	3,000
Sarnia, Ontario	22,000	14,600
Montreal, Quebec	30,000	3,000
Regina, Saskatchewan	7,200	2,500
Grand total—Canada	97,000	30,500

AWAIT DEVELOPMENTS IN REFINERY MARKET

(Continued from Page 20)

endpoint showed practically no change. Because several refiners had turned their entire production into the U. S. Motor grade during the past week, the 400 endpoint and the 375 endpoint grades were favored in price.

Natural Gasoline

The A and AA grades of natural gasoline were generally traded at 5 cents but there was little or no material going out above this figure. Manufacturers have been able to boost their quotations so rapidly in the past three weeks that the present slowing up of the market is believed to reflect the growing tendency for refiners to cut down the use of natural as much as possible because of its cost. It is also believed that the refinery gasoline price will approximate the top of the price range for naturals over the next few weeks and over the immediate future a price range of 4¾ to 5 cents will be supported.

Kerosene and Distillate

There was no important change in the kerosene market over the past week. There was an increasing number of inquiries for that material having a low sulphur content but not in sufficient volume to encourage raising the price range.

Distillates also maintained their position gained a week ago. Buyers are not as anxious to enter orders as they were a week ago pending the outcome of the East Texas situation but refiners in Oklahoma view this as logical and expect now to receive orders in increasing numbers. This is particularly true in the case of the heavier distillates and light gas oils where cold test will soon become a factor.

Gas Oil and Fuel Oil

The gas oil market was well maintained at the higher price level reached last week. The lesser volume of material moving from the East Texas refineries aided materially in this. Now that East Texas production will probably soon be permitted on a proration basis the effect of the East Texas refiners in this market will again be felt but there still remains the question of how much crude they will be able to run. Similarly, the price at which they will probably be able to buy crude will no doubt be high enough to permit free competition.

The fuel oil market might be described in the same manner as the gas oil market in that it has received its support in the past two weeks as somewhat of a result of the shut down in the East Texas Field. East Texas refiners have been receiving up to 75 cents a barrel for fuel oil which was bringing less than 15 cents a barrel before the shut down. This favorable factor has exerted itself in the Oklahoma area as well. Colder weather, together with the fact East Texas refiners will probably not run the quantity of crude they had been running, lends support to the growing optimism being portrayed in that market.

Lubricants and Wax

Bright stock prices strengthened to 17 cents as the low for the low cold test material. Contracts are being let on the basis of the published quotations with a 20-cent maximum and refiners are apparently anxious to lift the level of the spot market at or above this. Prices on cylinder stocks were also slightly higher. The neutrals simply held the advantage in price gained on April 22 when the Mid-Continent Petroleum Co. made a general advance in the list. During the past week several refiners who had been selling below the list raised their prices to correspond.

Wax was slightly improved with respect to inquiries and shipping instructions. Prices were unchanged but it is the general belief that the market will strengthen over the next 30 days.

IMPROVEMENT IN OIL SECURITIES MARKET

(Continued from Page 96)

June 30, 1931, was $4,037,698 after taxes, charges, etc., comparing with net loss of $2,491,143 in preceding quarter and profit before Federal taxes, of $2,-120,518 in June quarter of previous year.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Jan. 7	27.56	May 6	20.74
Jan. 14	27.31	May 13	20.38
Jan. 21	27.55	May 20	19.36
Jan. 28	27.26	May 27	18.35
Feb. 4	27.26	June 3	18.00
Feb. 11	27.76	June 10	19.62
Feb. 18	28.53	June 17	19.23
Feb. 25	29.33	June 24	22.33
Mar. 7	27.67	July 1	22.32
Mar. 11	26.53	July 8	21.24
Mar. 18	26.78	July 15	19.79
Mar. 25	26.85	July 22	21.33
Apr. 1	24.80	July 29	20.68
Apr. 8	25.52	Aug. 5	20.80
Apr. 15	24.72	Aug. 12	21.00
Apr. 22	22.73	Aug. 19	24.25
Apr. 29	20.54	Aug. 26	23.26

MRS. GEORGE W. BACON DIES

NEW YORK, Aug. 31.—Mrs. George W. Bacon, wife of the chairman of the board of Ford, Bacon & Davis, died at the Fifth Avenue Hospital here last week following a brief illness.

CHARLES D. CAMERON DIES

HOUSTON, Tex., Aug. 29.—Charles D. Cameron, superintendent of tank construction for the Humble Pipe Line Co., died suddenly in his hotel room at Longview, Tex., August 27. His home was at Houston, but he had gone to Longview to supervise construction of some tanks. He had been with the Humble for 13 years and was 44 years old at the time of his death. He is survived by his widow and two children.

SIZE OF OIL STRINGS AND INITIAL OUTPUT

(Continued from Page 32)

where the sand is more porous and prolific than in Sections 3, 10 and 34.

Table 5 shows the wells equipped with a 9-inch oil string. There are only three such wells in the North Wilcox area, all three located in Section 10. The great production obtained from these wells per hour-foot leaves no doubt about the important role played by the large cross sectional area of the 9-inch casing.

Table 6 lists two wells producing through a 4¾-inch and three wells producing through a 5-inch casing. The latter wells and one of the former ones are equipped with screens which makes them not very suitable for our purpose. The average initial hour-foot production of these four wells is, however, almost the same as the initial hour-foot production of the well with no screen. (No. 1, Table 5.) For this reason the average hour-foot production of the five wells will be used below. It may be mentioned that well No. 1 was killed shortly after completion in order to cut out the 4¾-inch casing and to increase the production. No improvement was subsequently noticed. This may be due to the killing of the well, a practice which often proved damaging in the Oklahoma City Field.

Influence of Chokes

It will be noticed that many of the wells in Tables 1 and 3, and all of the wells in Table 5, or in other words many of the wells completed through a 7-inch casing and all of the wells completed through a 9-inch casing were brought in through a choke. This naturally has a tendency to decrease the initial production, as can be seen from Table 1. The average hour-foot production for 13 wells brought in without a choke and listed on this table is 15.8 bbls., while the average hour-foot production for 21 wells on this table completed through chokes (in most cases, 4-inch chokes) is 13.3 bbls. The influence of the chokes on initial production is, however, less than suggested by the above figures, since most of the wells completed without a choke were among the first wells to be completed. But it is nevertheless thought preferable to use slightly modified values in Tables 1, 3 and 5, in order to make allowance for a restraining influence of the chokes. Instead of 14.2 in Table 1, a value of 14.9—instead of 23.9 in Table 3, a value of 25—and instead of 33.9 in Table 5, a value of 36 will therefore be used.

Table 7 shows a comparison of the relation between the inside diameter and the areas of the various casings, on the one hand, and the respective average hour-foot production, on the other hand.

Column 1 gives the size of the casings, Column 2 the average hour-foot production (from Tables 1, 2, 5 and 6); Column 3, the same as Column 2 expressed in multiples of the hour-foot flow through 4¾-inch casing; Column 4 the inside diameter of the casings; Column 5 the inside diameter of casings expressed in multiples of the inside diameter of the 4¾-inch casing; Column 6 the relation between the squares of the inside diameters of the casings, or of their areas, expressed in multiples of the area of the 4¾-inch casing. A comparison of Column 3 with Columns 5 and 6 shows that the flow per hour-foot varies approximately with the areas of the casings. It must however be remembered that only a limited number of wells were available to compute the hour-foot flow through both the 4¾-inch and the 9-inch casings. It is therefore preferable to confine our comparisons to the values obtained in Tables 1 and 2, which represent the average from 34 and 25 wells, respectively. Table 8 gives this comparison. It is seen from this table that the ratio between the hour-foot production through the 7-inch and 6⅝-inch casing compares favorably with the ratio between the third power of the inside diameter of the two casings. This checks closely with the formula for flow of oil and gas through pipes, which formula stipulates that the amount of oil and gas delivered, other factors remaining constant, be proportionate to the 8/3 power of the pipe diameter. The analogy might still be closer were it not for the disturbing influence of the chokes (Table 1). Of course, it would be wrong to overemphasize this analogy, yet it cannot be denied a certain significance.

Production of Offsets

It is quite interesting to compare the different production of offset wells equipped with different sizes of casing. Well No. 3, Table 5, for example, equipped with 9-inch casing, came in for about 100,000 bbls., while the offset wells equipped with 6⅝ and 7-inch casing came in for about 30,000 or 40,000 bbls., and in one case 60,000 bbls. Well No. 1, Table 6, equipped with a 4¾-inch casing came in for 2,194 bbls. in four hours from 70 feet of sand, while the north offset to this well (6⅝-inch) came in for 5,106 bbls. from 90 feet of sand. Two of the most striking wells were brought in in Section 2-11n-3w. One of these, equipped with a 4¾-inch casing and a liner, had an initial production of 620 bbls. in 1¼ hours, while the other one made through a 7-inch casing 7,000 bbls. in 3 hours and 5 minutes. The wells came in less than one month apart. Many similar instances could be noted. Liners or screens and small oil strings have materially reduced the Wilcox production in almost every instance in the Oklahoma City Field, while all the 9-inch casings have resulted in increased production.

An attempt was made to analyze conditions in the South Wilcox area of the Oklahoma City Field but for various reasons satisfactory results could not be obtained. It is, however, interesting to compare the hour-foot production of the No. 1 Mary Sudik well which after completion was running wild for several days with the hour-foot production of the other wells in the south end of the field. No. 1 Mary Sudik has an hour-foot production of 45.5 bbls., while the average hour-foot production of the surrounding wells is around 12 bbls. Similar conditions can be observed in the north end of the field where No. 1 Morgan-Stout in Section 2, which had also been running wild for several days immediately upon completion, has an hour-foot production of 45, even after having produced in the neighborhood of 150,000 bbls. of oil. The average hour-foot production of the Wilcox sand in this section is from 20 to 25. This shows clearly the influence of continued and unrestrained production on the later behavior of a well, and the advantage such a well has over wells that have always been producing under restriction.

Methods of Completing Wells

It has been attempted to find from Table 1 whether the method used in completing a well has any influence on the amount of initial production. In some of the wells listed in Table 1 most of the sand was drilled before setting the

TABLE 1—INITIAL PRODUCTION OF WELLS EQUIPPED WITH 7-INCH CASING (INSIDE DIAMETER 6.336 INCHES) IN SECTIONS 3 AND 10-11n-3w AND 34-12n-3w

No.	Date of completion	Initial production	Hours	Initial hourly prod.	Sand thickness	Initial hourly prod. per ft. of sand	Initial gas-oil ratio	Size of choke
1	9-11-30	3,712	1-20	2,780	149	18.6		
2	10-19-30	5,253	1-45	3,000	170	17.6		
3	10-29-30	4,635	3-15	1,430	86	16.6		
4	11-23-30	5,410	2-30	2,160	140	15.4	657	
5	11-26-30	4,215	2-15	1,870	110	17.0		
6	12-11-30	3,248	3-15	2,530	199	12.7		
7	12-16-30	8,941	3-05	2,900	155	18.7		
8	1- 9-31	5,486	4	1,372	90	15.3	713	4"
9	1-27-31	8,583	4	2,146	180	12.0	972	4"
10	1-29-31	8,896	4	2,244	177	12.6	663	4"
11	2- 4-31	10,549	4	2,637	193	13.7	733	4"
12	2-10-31	8,379	4	2,095	188	11.1	614	4"
13	2-13-31	8,387	4	2,097	100	21.0	780	4"
14	2-18-31	6,909	4	1,727	87	19.8	660	
15	2-19-31	8,227	4	2,057	180	11.4	725	4"
16	2-20-31	6,644	4	1,661	90	18.5	820	4"
17	3- 4-31	10,460	4	2,615	173	15.1	811	4"
18	3-10-31	9,011	4	2,253	179	12.6	704	4"
19	3-11-31	8,982	4	2,243	146	15.4	840	4½"
20	3-14-31	5,205	4	1,301	97	13.4	1,440	5½"
21	3-20-31	5,483	4	1,371	124	11.1	943	4"
22	3-25-31	7,034	4	1,759	131	13.4	780	
23	3-26-31	8,405	4	2,101	179	11.7	810	5¼"
24	4- 1-31	4,923	4	1,231	124	10.0	1,238	4"
25	4- 3-31	7,591	3-45	2,020	169	12.0	907	4"
26	4-16-31	7,100	4	1,775	108	16.3	1,197	5¼"
27	4-23-31	6,369	3-15	1,960	140	14.0		
28	4-30-31	6,463	4-30	1,440	150	9.6		
29	5-13-31	4,943	3	2,316	102	22.6	730	
30	5-23-31	4,308	2-15	1,920	116	16.5	1,490	4½"
31	5-29-31	6,504	4	1,626	162	10.0	900	5¾"
32	6- 4-31	5,675	4	1,420	138	10.3	825	4"-6"
33	6-21-31	5,164	3-15	1,590	150	10.1	984	4"
34	6-26-31	2,966	1-40	1,780	188	9.5		
Average	2-26-31			1,983	141	14.2	880	
		Corrected for effect of chokes.....				14.9		

TABLE 2—INITIAL PRODUCTION OF WELLS EQUIPPED WITH 6⅝-INCH CASING (INSIDE DIAMETER 5.855 INCHES) IN SECTIONS 3 AND 10-11n-3w AND 34-12n-3w

No.	Date of completion	Initial production	Hours	Initial hourly prod.	Sand thickness	Initial hourly prod. per ft. of sand	Initial gas-oil ratio	Size of choke
1	8-23-30	13,876	8-20	1,670	125	13.3	1,150	
2	9-26-30	13,933	6-25	2,180	145	15.0	860	
3	9-29-30	5,355	2-45	1,950	119	16.3	900	
4	10-30-30	2,436	1	2,436	155	15.6	1,900	
5	12-14-30	5,444	2-10	2,100	190	11.0		
6	1-30-31	5,989	4	1,497	125	12.0	830	
7	1-26-31	5,899	4	1,475	169	8.7	790	
8	1-29-31	6,389	4	1,599	136	11.7	900	4"
9	2- 4-31	8,363	4	2,091	125	16.7	837	
10	2- 9-31	6,263	4	1,566	131	11.9	772	
11	2-10-31	5,106	4	1,277	91	14.0	1,220	
12	2-18-31	6,933	4	1,733	198	8.8	850	
13	3-11-31	8,774	5-40	1,550	177	8.7	1,160	
14	3-14-31	6,195	4	1,549	146	10.6	947	
15	4- 2-31	4,618	4	1,155	92	12.1	1,580	
16	4- 7-31	6,890	4	1,425	123	11.6	1,160	
17	5-29-31	1,501	1	1,501	190	7.9	1,580	
18	6- 2-31	5,344	4	1,336	84	15.9	1,900	
19	6- 4-31	3,008	2	1,504	140	10.7	1,300	
20	6- 4-31	3,528	2	1,764	156	11.3	1,230	
21	6- 9-31	1,638	1	1,638	157	10.4	1,280	
22	6-14-31	6,594	4	1,640	186	8.8		
23	6-17-31	7,292	4	1,823	186	9.8	1,090	
24	6-17-31	9,634	5-30	1,750	200	8.8	930	
25	7-15-31	1,785	1	1,785	111	16.1		
Average	3- 6-31			1,680	142	11.9	1,140	

TABLE 3—INITIAL PRODUCTION OF WELLS EQUIPPED WITH 7-INCH CASING (INSIDE DIAMETER 6.336 INCHES) IN WEST HALF OF WEST HALF SECTION 2-11n-3w

No.	Date of completion	Initial production	Hours	Initial hourly prod.	Sand thickness	Initial hourly prod. per ft. of sand	Initial gas-oil ratio	Size of choke
1	9-26-30	5,322	1-40	3,200	133	24.0		
2	10-14-30	10,647	4-20	2,460	101	24.0	820	4"
3	10-18-30	3,920	4	980	48	20.4	1,360	
4	10-22-30	2,284	0-55	2,300	84	27.4	1,219	5"
5	11-15-30	2,593	1-03	2,500	101	24.9	818	
6	12-22-30	9,041	4	2,260	101	22.4	1,226	3"
Aver.	11- 1-30			2,283	95	23.9	1,090	
		Corrected for effects of chokes.....				25.0		

TABLE 4—INITIAL PRODUCTION OF WELLS EQUIPPED WITH 6⅝-INCH CASING (INSIDE DIAMETER 5.855 INCHES) IN WEST HALF OF WEST HALF OF SECTION 3-11n-3w

No.	Date of completion	Initial production	Hours	Initial hourly prod.	Sand thickness	Initial hourly prod. per ft. of sand	Initial gas-oil ratio	Size of choke
1	8-31-30	9,644	10-25	930	52	17.8	1,250	
2	9-25-30	9,140	4-15	2,140	102	21.0	1,600	
3	10- 7-30	2,036	3-40	535	35	15.3	6,050	
4	10- 7-30	8,882	4	2,221	105	21.1	970	
5	10- 7-30	2,231	1	2,231	82	27.2		
6	10-28-30	1,964	2-25	820	45	18.2	1,090	
7	10-30-30	9,686	4	2,422	192	12.6		
8	5-14-31	315	0-12	1,575	112	14.0		
Aver.	11- 7-30			1,520	92	18.4	2,190	

TABLE 5—INITIAL PRODUCTION OF WELLS EQUIPPED WITH 9-INCH CASING (INSIDE DIAMETER 8.835 INCHES) IN SECTION 10-11n-3w

No.	Date of completion	Initial production	Hours	Initial hourly prod.	Sand thickness	Initial hourly prod. per ft. of sand	Initial gas-oil ratio	Size of choke
1	2-19-31	11,001	4	2,750	177	15.5	850	4"
2	2-28-31	7,806	4-35	1,705	42	40.5	1,540	4"
3	3-29-31	9,379	2-15	4,170	91	45.7	700	4"
Average	3- 7-31			2,875	103	33.9	1,030	
		Corrected for effects of chokes.....				36.0		

TABLE 6—INITIAL PRODUCTION OF WELLS EQUIPPED WITH 4¾-INCH CASING (INSIDE DIAMETER 4.083 INCHES) AND 5-INCH CASING (INSIDE DIAMETER 4.408 INCHES) IN NORTH WILCOX AREA OF OKLAHOMA CITY FIELD

No.	Date of completion	Initial production	Hours	Initial hourly prod.	Sand thickness	Initial hourly prod. per ft. of sand	Initial gas-oil ratio	Size of casing
1	12-17-30	2,194	4	549	70	7.8	870	*4¾"
2	10-18-30	2,734	3	910	98	9.3	10,000	†5"
3	10-27-30	1,978	4-50	413	148	2.8	850	†5"
4	2-19-31	2,054	2-40	770	140	5.5	1,000	†5"
5	4-30-31	4,178	6	695	55	12.6	1,470	†4¾"
Average						7.6	2,840	

*No screen. †With screen.

TABLE 7—RELATION BETWEEN AVERAGE HOUR-FOOT PRODUCTION THROUGH VARIOUS SIZES OF CASINGS (FROM TABLES 1, 2, 5 AND 6), AND RELATIONS BETWEEN FIRST AND SECOND POWER OF INSIDE DIAMETER OF CASINGS

(1) Casing size	(2) Hour-foot production	(3) Hour-foot prod. taking 7.6 bbls. as unit	(4) Inside diameter of casings	(5) Inside diameter of casings taking 4.082" as unit	(6) Area of casings taking 4¾" casing as unit
4¾"	7.6 bbls.	1	4.082	1	1
6⅝"	11.9 bbls.	1.57	5.855	1.43	2.05
7"	14.9 bbls.	1.96	6.336	1.55	2.4
9"	36.0 bbls.	4.74	8.835	2.16	4.7

TABLE 8—RELATION BETWEEN AVERAGE HOUR-FOOT PRODUCTION THROUGH 7-INCH (FROM TABLE 1) AND 6⅝-INCH (FROM TABLE 2) CASING AND RELATIONS BETWEEN THE FIRST, SECOND AND THIRD POWER OF THE INSIDE DIAMETER OF 7-INCH AND 6⅝-INCH CASING

Casing size	Hour-foot production	Ratio between hour-foot prod. through 7" and 6⅝" csg.	Inside diameters of casings	Ratio between I.D. of casings	Ratio between squares of I.D. of casings	Ratio between cubes of I.D.
6⅝"	11.9	1	5.855	1	1	1
7"	14.9	1.25	6.336	1.07	1.17	1.27

oil string, while in other wells casing was set as soon as the Wilcox sand was found. Most of these latter wells were later on drilled in with water. The information obtained from Table 1 is, however, too meager to arrive at a definite conclusion. If anything, it would seem that the wells which drilled the sand with the larger hole, that is, those which drilled the sand before setting casing, made better producers than the wells which first set casing and then drilled in. But here too, it must be mentioned, that the wells mentioned first were mostly among the first wells completed in the Wilcox area.

Tables 1, 2, 3 and 4 might suggest that 7-inch casing would have a tendency to lower the gas-oil ratio and to produce the oil more economically than does the 6⅝-inch casing. It is thought, however, that the difference in gas-oil ratio may either be due to the chokes or to inaccurate gauges rather than to the difference in size of casing.

In summarizing, we may say that the conditions existing in the North Wilcox Pool of the Oklahoma City Field prove practically beyond any doubt that in deep and large wells the casing plays a great role in controlling the initial production. This, of course, would not mean that the final production would increase by using a larger size of casing, but the initial production is of great economical importance in any field where we have as much competitive drilling as we do in the Oklahoma City Field, and, for that matter, in most every major field developed thus far in the United States.

It is also obvious that the role played by large casings increases in importance with the continued improvement of drilling equipment and casing. For while in the past the size of casing was limited by the drilling equipment, we are now rapidly approaching an era where this limitation will not be a controlling factor any more. In California a 9-inch string of casing has been successfully set as low even as 7,956 feet (The Oil and Gas Journal, April 2, 1931, Page 121).

Acknowledgements: Thanks are due to the various oil companies operating in the Oklahoma City Field, notably the Indian Territory Illuminating Oil Co., the Phillips Petroleum Co., the Sinclair Oil & Gas Co., and Hall & Briscoe, for the information contributed toward this paper.

TANK WAGON CHANGES

(Continued from Page 94)

vanced the gasoline station price one-half cent in Little Rock, Ark., to 11 cents.

Atlantic Refining Co. posted reductions in the gasoline tank wagon and station prices in Massachusetts, Rhode Island and Connecticut on August 16.

Standard Oil Co. of Kentucky reduced the gasoline tank wagon and station prices to 15 cents in Jacksonville, Fla., on August 25. On the same date the tank wagon price was advanced to 18 cents in Savannah, Ga.

On August 19 the gasoline tank wagon and station prices were advanced to 16 cents in Atlanta, Ga. On the same date the tank wagon price was advanced to 19 cents in Augusta, Ga. On the same date the tank wagon and station prices were advanced to 18 to 19 cents in Tampa, Fla. On August 20 these prices were advanced to 16 cents in Jackson, Miss. On August 21 these prices were advanced to 19 and 20 cents in Pensacola, Fla.

Continental Oil Co. reduced the gasoline tank wagon and station prices 1 cent in Billings, Mont., August 16. On August 26 there was a general advance of 1 cent in Colorado with the exception of Denver. On the same date the gasoline tank wagon and station prices were advanced one-half cent in Cheyenne, Wyo.

CRUDE PRICE CHANGES

(Continued from Page 94)

both the Ohio Oil Co. and the Mid West Refining Co.

The Louisiana Oil Refining Co., effective August 24, posted Urania, La., at 40 cents; Stephens, Ark., below 29 degrees, 41 cents; 29 degrees and above, 44 cents.

On August 27 the Vacuum Oil Co. applied the increased price schedule of the Gulf Coast to Lockport, La., where it purchases.

The Producers & Refiners Corp., effective August 25, increased the price of Lost Soldier, Wyo., crude to 54 cents per barrel.

On August 25 the Shell Petroleum Corp., effective August 25, increased the price of Lost Soldier, Wyo., crude to 54 cents per barrel.

On August 25 the Shell Petroleum Corp. advanced Toborg, Pecos County, crude to 25 cents per barrel, a 10-cent increase.

Although not making it an official posted price the Humble Oil & Refining Co. announced that effective August 22 it would pay 68 cents per barrel for all oil run by it out of East Texas and for the week preceding that 25 cents per barrel, thus conforming to a new plan of the company to pay a price equal to the top price posted for the field by any substantial purchasing company actually buying oil in the field. In the present instance this new price applied to oil purchased before the shutdown and put into field storage.

Effective September 1 the Seep Purchasing Agency advanced Corning, Ohio, crude 5 cents per barrel.

VAPOR PRESSURE TEST AVIATION SPECIFICATIONS

(Continued from Page 90)

C. (158° F.) not less than 10 per cent shall be evaporated.

When the thermometer reads 110° C. (230° F.) not less than 50 per cent shall be evaporated.

When the thermometer reads 160° C. (320° F.) not less than 90 per cent shall be evaporated.

The residue shall not exceed 2 per cent.

Per cent evaporated shall be found by adding the distillation loss to the amount collected in the receiver at each specification temperature.

Vapor Pressure—Method A.S.T.M.—D323-30T. The vapor pressure at 37.8° C. (100° F.) shall not exceed 10 pounds per square inch; except that for use in airplanes or similar equipment not adequately protected from vapor lock, the vapor pressure shall not exceed 7 pounds per square inch.

Freezing Point—The freezing point as indicated by the initial formation of solid rather than by the cloud point shall not be higher than —60° C. (—76° F.).

Acidity—Method 510.2. The residue remaining in the flask after the distillation is completed shall not show an acid reaction.

The present specifications provide that:

When 5 per cent of the sample has been recovered in the graduated receiver, the thermometer shall not read more than 75° C. (167° F.) or less than 50° C. (122° F.).

When 50 per cent has been recovered in the receiver, the thermometer shall not read more than 105° C. (221° F.).

When 90 per cent has been recovered in the receiver, the thermometer shall not read more than 155° C. (311° F.).

When 96 per cent has been recovered in the receiver, the thermometer shall not read more than 175° C. (347° F.).

The endpoint shall not be higher than 190° C. (374° F.).

At least 96 per cent shall be recovered as distillate in the receiver from the distillation.

The distillation loss shall not exceed 2 per cent when the residue in the flask is cooled and added to the distillate in the receiver.

In both the present and the new specifications the Government requires that the sulphur content not exceed .1 per cent in both grades of aviation gasoline.—C. E. K.

CROWD SEES OIL FIRES PUT OUT BY LIQUIZONE

The efficacy of Liquizone in extinguishing oil fires was demonstrated Monday of this week before an interested gathering of oil men and others on the Oklahoma State Fair grounds in Tulsa. The demonstration was conducted by H. A. Kassebaum, salesmanager of the Fog Distributor Corp., Ltd., Los Angeles, Calif., with the aid of a detachment of Tulsa firemen under the direction of Fire Chief Richard E. Pitts.

For the purposes of the demonstration a pool of oil about 20 feet in diameter was used. This was ignited and allowed to burn until the billowing smoke and flame gave a realistic representation of an oil country fire. Then firemen under the guidance of Mr. Kassebaum brought up a hose line equipped with one of the several types of Liquizone distributor heads or nozzles and directed a cloud of fog on the flames. In a remarkably short time—in some instances within a few seconds—the fire was extinguished. A feature of interest was the fact that the mass of fog emitted from the nozzle provided protection for the firemen while they advanced on the scorching heat.

Liquizone, Mr. Kassebaum explained, extinguishes fire by absorbing heat, at the same time cooling the combustible material below the kindling point. In the process of absorbing heat, steam is generated in the space between the fire and the burning material, thereby excluding oxygen, so that there also is some smothering action at the same time owing to the density of this steam. The steam generated in this manner is known as saturated steam—vapor in contact with its liquid and in thermal equilibrium—and, unlike superheated steam, it retains its full heat-absorbing and cooling qualities. This process of generating steam continues without abatement as long as there is any fire or burning action with which the Liquizone comes in contact.

Mr. Kassebaum pointed out that Liquizone, which is simply water broken up into such fine particles that it is virtually a dense fog, does not disturb the surface of burning oil as does a solid stream of water or other fluid and does not cause boilovers of burning tanks for the reason that it is converted into steam above the surface of the burning substance.

SOLDIER MANUFACTURER

Major E. L. Lorehn of the 124th Cavalry, Texas National Guard, on duty in the East Texas oil fields. Major Lorehn is vice president and general manager of the Cameron Iron Works at Houston, Tex.

TESTING MATERIALS CONGRESS

The first congress of the New International Association for Testing Materials will be held in Zurich, Switzerland, from September 6 to 12.

CALIFORNIA CRUDE OIL PRICES

(Continued from Page 93)

UNION OIL CO. OF CALIFORNIA

Crude Oil Prices for Its Purchases at the Well for Crude Produced in Strict Accordance With the Production Allocations Made by the California Statewide Curtailment Committee Effective 7 a.m., June 20, 1931

(All gravities above these quoted take highest price for that field)

Gravity °A.P.I.	Signal Hill	Alamitos Heights, Seal Beach	Huntington Beach	Athens, Rosecrans, Domingues	Torrance	Santa Fe Springs	Playa Del Rey*	E. Coyote, Richfield	Montebello	Santa Paula	Orcutt	Coalinga	Lost Hills	McKittrick, Kern River, Sunset-Midway, Elk Hills, Buena Vista Hills	Gravity °A.P.I.
11-13.9	....	....	....	....	....	....	....	....	....	....	....	....	....	$.50	11-13.9
14-14.9	$.65	$.65	$.65	....	$.65	....	....	$.65	$.65	$.65	$.55	$.55	$.55	.55	14-14.9
15-15.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	15-15.9
16-16.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	16-16.9
17-17.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	17-17.9
18-18.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	18-18.9
19-19.9	.65	.65	.65	....	.65	....	$.65	.65	.65	.65	.55	.55	.55	.55	19-19.9
20-20.9	.65	.65	.65	....	.65	....	.65	.65	.65	.65	.56	.55	.55	.55	20-20.9
21-21.9	.65	.65	.65	....	.66	....	.66	.66	.65	.65	.57	.55	.57	.55	21-21.9
22-22.9	.65	.65	.65	....	.66	....	.67	.67	.65	.65	.59	.55	.59	.56	22-22.9
23-23.9	.67	.67	.67	....	.67	....	.68	.68	.65	.65	.61	.55	.60	.58	23-23.9
24-24.9	.69	.69	.69	$.69	.68	$.65	.69	.69	.65	.66	.63	.55	.62	.61	24-24.9
25-25.9	.71	.71	.71	.71	.70	.65	.70	.70	.65	.68	.65	.57	.64	.64	25-25.9
26-26.9	.73	.73	.73	.73	....	.65	....	.72	....	.70	.67	....	.66	.66	26-26.9
27-27.9	.75	.75	.75	.75	....	.68	....	.74	....	.72	....	....	.67	.68	27-27.9
28-28.9	.77	....	....	.77	....	.71	....	....	....	.74	....	....	.69	.71	28-28.9
29-29.9	.79	....	....	.79	....	.73	....	....	....	.76	....	....	.71	.74	29-29.9
30-30.9	.81	....	....	.81	....	.75	....	....	....	.78	....	....	.72	.76	30-30.9
31-31.9	....	....	....	.83	....	.78	....	....	....	....	....	....	....	....	31-31.9
32-32.9	....	....	....	.85	....	.80	....	....	....	....	....	....	....	....	32-32.9
33-33.9	....	....	....	.87	....	.83	....	....	....	....	....	....	....	....	33-33.9
34-34.9	....	....	....	.89	....	.85	....	....	....	....	....	....	....	....	34-34.9

*Subject to a gathering charge of 5 cents per barrel.

WESTERN NEW YORK AND NORTHERN PENNSYLVANIA INCREASE ACTIVITY

By Special Correspondent

CORNING, N. Y., Aug. 29.—Recent gas discoveries north of Portville, Cattaraugus County, New York, have revived interest in that part of the old Allegany Field, and the Elmira Natural Gas Co. thinks well enough of the territory to have made a contract for the drilling of five gas tests. The company is rigged up for No. 1 Netzel and was expected to start spudding in today. This is the first of the tests. The company has 1,600 acres under lease. The pay varies in this field between 1,200 and 1,600 feet.

In Chemung County, New York, the Elmira Natural Gas Co., which is drilling a wildcat Oriskany sand test on the Berthod property, on the Big Flats-Elmira River Road, found a pocket of gas at 225 feet and a gas showing at 500 feet. Oriskany sand is expected to lie at about 3,500 feet in that area. The same company's No. 1 Oparil, near Carr's Corners, is drilling below 500 feet.

The village of Bath, county seat of Steuben County, is anxious to get natural gas from the Wayne Field if the price for delivery at the village manufactured gas plant is satisfactory. A committee has been appointed to get a concrete offer from the Donovan Construction Co. to deliver the gas at a price of 60 cents per 1,000 feet.

The Rathbone gas area in Steuben County is slated for additional drilling this year. It is expected that the Penntoga Gas Corp. and the Tri-State Gas & Electric Corp. of Elmira, will soon begin development work. The Tri-State Gas & Electric Corp. has purchased the Penn City Oil & Gas Co.'s No. 1 Allen together with about 4,000 acres of leases, giving it the ownership of 7,000 acres in that area. Gas was found in No. 1 Allen at 900 feet and the well was reported to have shown an initial production of 1,000,000 feet. President Gale H. Stalker of the Tri-State corporation says two wells will be started in the very near future.

Cunningham Natural Gas Corp.'s No. 2 Swarthout, in the Wayne Field, New York, was brought in on Friday with a daily open flow capacity of 3,000,000 feet. This gives the corporation eight producing wells with a total capacity of about 22,000,000 feet daily.

Randolph Decker and others' No. 1 Reap in the Wayne Field started at 5,200,000 feet. This is the Decker group's third gas well. The gas will be sold to the Lycoming Gas Co.

The Leonard Drilling Co.'s interesting wildcat near Towanda, Bradford County, Pennsylvania, is down 4,862 feet and still above the Onondaga limestone. The Penn United Gas Co.'s test on the fair grounds in Towanda was drilling close to 3,600 feet.

The Tri-State Gas & Electric Co. and Bigelow Gas Corp.'s No. 1 Wyss, in the Wayne Field, the sixteenth gas well the two companies have drilled, came in as a 6,000,000-bbl. well.

Turner and others' No. 1 Turner, near the village of Horseheads, Chemung County, New York, was shot with 1,800 pounds of solidified glycerin at about 2,200 feet (Marcellus formation, just above the Oriskany sand), and the well made a 300,000-foot gas showing the first 24 hours.

The Burns Oil & Gas Co. of Pittsburgh drilled in its William Glover well in Wayne, with a daily flow of 3,500,000 feet after the drill had penetrated 13 feet into the Oriskany sand, which was encountered earlier in the week at a depth of 1,712 feet.

The East Penn Development Corp. of New York has purchased approximately 40,000 acres of oil and gas leases in Chautauqua and Cattaraugus Counties, New York State, together with gas wells, pipe lines and other physical assets, from the Lee Gas Corp. of Forestville, N. Y., the Hanover Development Co. of Silver Creek, and the Dickinson interests. Consideration is reported to be more than $1,000,000.

The Standard Oil Co. of New Jersey on Friday took over control of two more natural gas operating companies in the Wayne Field in New York. J. French Robinson, head of the Lycoming Natural Gas Co., a subsidiary of Standard of New Jersey, announced completion of contracts with the Pentoga Gas Co. of Elmira, N. Y., and Degolier and Wyss of Wayne, the fourth and fifth companies in the field now under contract with Lycoming. Production in the field now pledged in Lycoming totals 120,000,000 feet. The remainder is controlled by the Belmont Quadrangle Co., the Columbia Gas & Electric Co. and a few independent concerns.

FRED GLOBENSKY DIES

CHATHAM, Ontario, Aug. 31.—Fred Globensky, well known in the early days of the Petrolia Field, died recently at Petrolia in his eighty-seventh year. He was associated with the M. J. Woodward refinery.

The American Well Works manufactures a complete line of oil well pumping units. They are made in a wide variety of sizes permitting a length of stroke of from twelve to fifty inches. All gears are enclosed and run in a bath of oil. Used throughout the oil fields of the world. Catalogs and engineering data upon request.

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Late Fields

(Continued from Page 32)

new Lockwood Field, Fort Bend County. In sand at 3,126-79 feet, the well came in flowing at the rate of 175 bbls. daily with 8,000,000 feet of gas. It is 800 feet north, 20 degrees west of the discovery well.

KANSAS

The wildcat test of Dewey & Mitchell and others' No. 1 Greenawalt, C SW, Section 17-19-16w, Rush County, is rated as a 300-bbl. well from the Silicious lime at 3,835-80 feet. The new well may be put on production in 30 days as the owners are contemplating the building of a pipe line from the well to a loading rack on the Missouri Pacific Railroad, a distance of about 4 miles. The well may be tubed and put to pumping. The new area may be called the Boyle Pool. It is located about 16 miles north of Larned and about 22 miles west of Great Bend. All the surrounding acreage is under lease to Continental Oil Co., Mid-Kansas Oil & Gas Co., Derby Oil Co., Phillips Petroleum Co., Prairie Oil & Gas Co., The Texas Company and Arkansas Fuel Oil Co.

OKLAHOMA

The production from the Oklahoma City Field on August 31, at 7 a.m., was 341 bbls. of oil. It is the smallest gauge from the field since the executive shutdown.

In the north end of the field, Morgan Petroleum Co. and Wilcox Oil & Gas Co.'s No. 1 Busby, NW cor. SE NW Section 3-11-3w, on Lot 13, Block 3, flowed 7,586 bbls. of oil in six hours. The gas was estimated at 38,000,000 feet a day. The oil and gas was from the Wilcox sand at 6,325-6,486 feet. The well was drilled into the sand several weeks ago but was shut down while the company was erecting tanks.

"MOROIL" SHOT-PACKED PUMP READY TO MARKET

After months of research work and field tests the Bridgeport Machine Co., Wichita, Kans., is ready to market its new model A shot-packed pump. The heart of the Moroil shot-packed pump is a cone-shaped taper at the top of a 14-inch liner. By the actuation of the plunger and the weight of the fluid the shot are automatically mashed into a wedge of soft lead around the plunger, thus preventing a leak-by, and conforming to the size of the plunger as wear occurs. Owing to this patented feature the Moroil does not depend on a tight fitting plunger to make it pump, but entirely on the shot packing to effect a perfect seal which reduces cut oil or b.s. content and reduces rod trouble because of less friction.

Moroil pumps are packed from the derrick floor, permitting the pump to stay in the well until balls and seats wear out. The pumper can repack the Moroil without the aid of a roustabout crew. No cups are used. After the tubing has been run and the plunger properly spaced, the operator merely pours 2 pounds of No. 6 drop shot in the tubing, allowing 20 minutes or so for the shot to settle in the packing collars, then starts pumping. In case production starts to fall, he pours in 1 pound more of No. 6 shot. The shot after a few hours forms a solid wedge in the packing collar, thus forming a perfect seal.

THOMAS J. RAINSBERRY DIES

CHATHAM, Ontario, Aug. 29.—Thomas J. Rainsberry, well known in the Ontario oil industry through his connection with various Petrolia enterprises, died recently at Petrolia, aged 60. In his earlier days he was connected with the McMillan & Kitteridge refinery at Petrolia and Stratford.

GULF COAST GASOLINE TRADE AT STANDSTILL

HOUSTON, Tex., Sept. 1.—The sharp strengthening of gasolines which has been going on in the Gulf Coast following the shutdown of the East Texas Field came to a halt the past week and the market over the week-end was marking time pending the issuing of an order by the State Railroad Commission limiting the production of the field. It is generally agreed here that the fate of the refinery market on the Coast lies in developments in the East Texas situation and that if the field is closely restricted improvement in refinery markets may be expected.

Although buyers found that gasoline was slightly more plentiful at the opening of the week than it had been for several days, yet the market still was decidedly firm and 5-cent gasoline was present in fact as well as quoted price. There was no material available under that figure although the advance in price had slackened and uncertainty prevailed.

Contrary to expectations, fuel oil as yet has not reflected the East Texas shutdown and the better tone which developed in the crude situation followed by general price advances. All fuels at the opening of the week continued inactive with prices unchanged. Bulk fuel still was offered fairly freely from 45 to 50 cents from various sources while bunker oil found considerable competition among sellers to move this product at the posted price of 55 cents.

With the strengthening of the East Texas crude situation, sellers at once tightened up on their fuel here in expectation of stronger markets which all other products reflected. However, this found no response on the part of the buyers and the situation now apparently is as easy as it was before the crude shutdown.

Gas oils continued unchanged in price although fairly firm in view of the expected new business with the coming burner oil season. There is comparatively little gas oil available and that from only a few well-fixed sources.

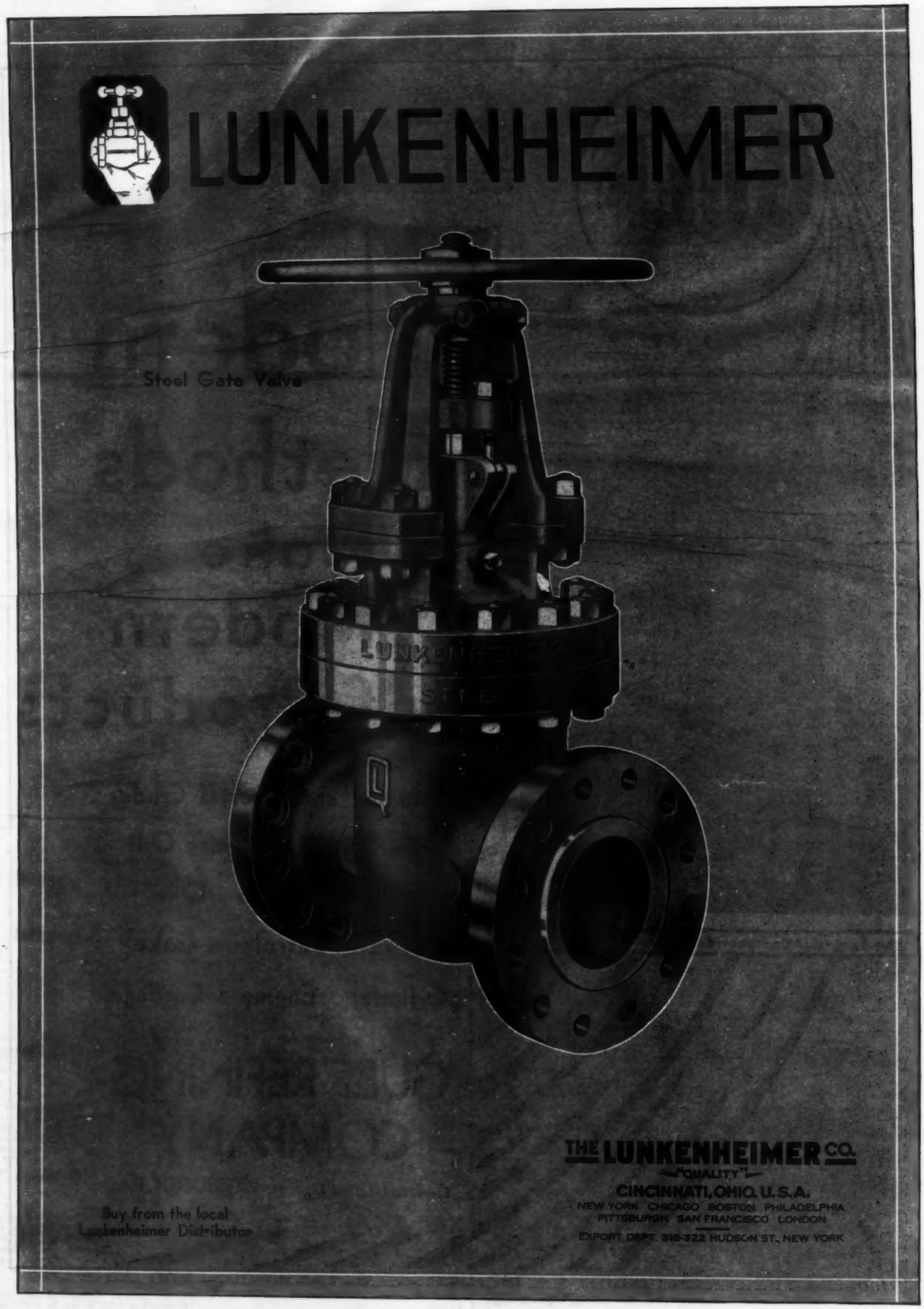
Pale and red oils were firm at previously posted prices. While they have not received the strengthening thought due them in view of developments it still is felt they are in a good position to reflect immediately any further strengthening in crude.

PENN GRADE ASSOCIATION TIGHTENS RESTRICTIONS

OIL CITY, Pa., Sept. 1.—The Pennsylvania Grade Crude Oil Association has adopted new and stronger regulations under which wholesalers of pure Pennsylvania oil will be licensed to use the nationally advertised trade-mark of the association in their advertising and selling. Prominent among the new conditions is the requirement that every concern licensed by the association to use the association trade-mark in connection with his private brand shall pay a yearly fee, varying according to the nature of his business and the number of brands he sells, from $50 to $500 or more. Each brand will be assigned a separate license number.

The growing tendency of retailers to capitalize the association trade-mark as a brand of pure Pennsylvania oil caused the adoption of a new regulation to the effect that the association emblem must never be used in such a way as to create the impression that it is a brand; the private brand or trade name of the oil must always be displayed in advertising more prominently than the association emblem; and the association name must never be used in such a way as to mislead anyone into thinking that the association produced or refined the oil.

The arrangement through which wholesalers licensed by the association file a penalty bond to guarantee their observance of certain regulations is continued as an important part of the improved plan.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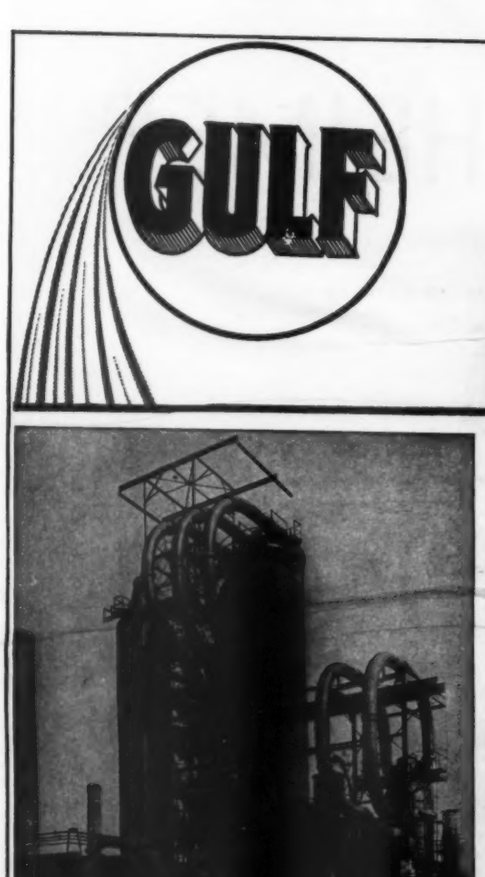

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GULF REFINING COMPANY

General Sales Offices: PITTSBURGH, PA.

Texas Gross Production for Second Quarter, 1931

Gross receipts tax on crude oil production in Texas, quarter ending June 30, 1931:

A

Name and address—	Barrels	Value
Atlas Production Co., Burkburnett	1,087.95	$497.40
Ada Belle Oil Co., Batson	16,052.52	9,322.07
Allied Oil & Gas Co., Laredo	66,391.70	37,461.74
A. & P. Production Co., Houston	30,705.74	19,132.27
Alamo Oil Co., Brownwood	399.00	182.05
Alworth-Stevens-Hild Co., New York, N. Y.	1,418.49	824.55
Adams & Lyles, Lockhart	1,622.43	827.43
Adams & Lyles, Lockhart	4,783.36	2,439.51
Alamosa Oil Co., Amarillo	2,218.89	380.71
Arrow Oil & Gas Co., Fort Worth	93,750.43	18,750.09
Arrowhead Oil Co., Dallas	1,405.63	639.13
Ailes, John W., Wichita Falls	652.64	261.05
Ames, E. W., et al, Marshall	417.45	210.21
Argus Oil Co., Austin	140.62	49.87
Artex Oil Co., Wichita Falls	956.85	429.76
Abercrombie, J. C. Co., Houston	157,071.27	70,495.10
Arcadia Refining Co., Calumet	38,769.35	18,325.73
Andrews Petroleum Corp., New York, N. Y.	3,117.05	1,705.69
Alls-tair, P. J., Markley	850.69	333.04
Adams, Dr. Walter B., Wichita Falls	322.08	161.04
American Maracaibo Co., New York, N. Y.	93,095.88	31,209.11
Atlantic Oil Producing Co., Dallas	465,299.89	165,067.77
Art & Taxman, Wichita Falls	445.63	313.35
Arkansas Fuel Oil Co., Shreveport, La.	1,811,840.00	546,082.31
American Refining Properties, Wichita Falls	34,446.67	11,914.58
Andrews, W. R., et al, Breckenridge (3-31-31)	543.35	268.77
Allday Oil Corp., Wichita Falls	163.93	76.16
Arab Gasoline Corp., Eastland	1,002.18	528.15
Ama-Gray Oil Co., Pampa	3,721.79	1,232.13
Alpine Oil & Development Co., Alpine	4,501.65	1,166.19
Acordable Life Insurance Co., Waco	410.00	164.00
Acorn Oil Co., Beaumont	6,139.09	3,533.46
Adams, Harry, Company, Midland	7,566.57	2,688.65
Anderson, Clarence N., trustee, Des Moines, Iowa	None	.....
Abraham, Earl, Bridgetown	764.26	330.80
Aarco Oil & Gas Co., Baltimore, Md.	5,780.12	2,873.90
Amerada Petroleum Corp., Tulsa, Okla.	228,712.84	71,389.98
Alaska Petroleum Co., Amarillo	1,925.66	703.58
American Refining Prop. (MJB), Wichita Falls	3,268.09	2,015.34
American Refining Prop. (WMP), Wichita Falls	5,097.77	2,183.92
American Refining Prop. (NBC), Wichita Falls	800.49	338.26
American Refining Prop. (RMW), Wichita Falls	1,440.08	756.25
Atkinson & Sandefer Oil Corp., Breckenridge	7,571.07	4,318.04
Arco Oil Co., Wichita Falls	17,174.13	6,076.76
Anderson-Drewery Corp., Cisco	4,742.00	2,469.34
Anderson-Prichard Oil Corp., Oklahoma City, Okla.	131.22	63.50

B

Black & Dittman, Fort Stockton	1,775.00	310.62
Black, M. H., et al, Fort Stockton	1,812.00	317.10
Bradstreet, L. G. Co., Fort Worth	20,146.69	8,829.77
Bramlette & Hammond Oil Co., Fort Worth	872.57	347.67
Beams, Drew, Okmulgee, Okla.	2,015.30	1,017.70
Big Indian Oil & Development Co., Gainesville	215.50	101.29
Barnes, J. B., Electra	7,684.33	3,525.33
Blue Bonnet Petroleum Corp., Somerset	608.03	246.00
Borealis Oil Co., Oklahoma City, Okla.	2,752.01	1,410.24
Bowman Oil Co., Rockdale	389.06	229.82
Bernice Oil Co., Saratoga	12,064.34	5,649.93
Briggs, R. F., C. O. Smith and T. C. Steiner, Corsicana (3-31-31)	77.90	55.06
Baker & Pardue, Breckenridge	11,880.40	4,900.68
Bradford, Clyde, Grand Falls (10-1-30 to 3-31-31)	1,984.54	1,079.74
Black Cat Oil Co., Tyler	779.28	382.35
Beggs, George-Strip, Fort Worth	1,006.91	770.44
Bynum, W. W., estate, Rockdale	765.80	435.06
Brown, Mrs. Carrie L., et al, Orange	10,080.76	6,952.25
Brown, Dr. E. W., estate, Orange	4,453.14	3,105.31
Barkley & Conway, Ranger	4,017.40	3,806.96
Ball Oil Corp., Henderson (3-31-31)	47,630.00	18,926.28
Beard & Hammond Oil Co., Fort Worth (3-31-31)	989.74	698.20
Bazzoon, G. A., Vernon (3-31-31)	320.00	220.80
Breeding & Hutson, Rising Star (3-31-31)	343.12	306.73
Birton & Gordon, Strawn	576.31	294.15
Black, M. H., et al, Grand Falls, (9-1930 to 3-1931)	10,734.57	3,563.44
Bourbon Royalty Co., Dallas	4,609.05	2,225.55
Brown & Fox Oil Co., Wichita Falls	1,073.71	572.49
Biel, William A., Von Ormy	154.00	75.40
Brown, H. L., Fort Worth	9,175.44	4,566.99
Bryson Oil & Gas Co., San Angelo	7,913.13	3,600.47
Burns, L. T., Wichita Falls	40,726.52	21,049.22
Bradstreet, L. G., Co., Fort Worth	14,104.95	10,369.64
Bexata Oil Co., San Antonio	819.82	342.35
Bohner, C. J., et al, Burkburnett	4,904.22	2,311.49
Bohner, C. J., Oil Corp., Burkburnett	15,411.54	6,964.01
Bohner, Crenshaw & Whitehill, Burkburnett	8,509.76	3,529.30
Boller, C. W., Wichita Falls	17,113.07	8,038.06
Bluebonnet Oil Co., Wichita Falls	506.66	226.82
Boardman & Ulrich, Corsicana	1,892.00	643.28
Braden Co., Tulsa, Okla.	3,433.35	1,231.17
Baker, J. F. and H. E., Breckenridge	1,795.00	901.14
Baker, Mollie B. and Fred R., Breckenridge	445.00	222.50
Baker, J. A. and Mollie B., Breckenridge	4,235.00	1,942.78
Black, W. A., Midland	721.95	309.45
Buttram Petroleum Corp., Oklahoma City, Okla.	36,406.49	17,880.48
Bonner Co., Wichita Falls	13,318.35	6,520.25
Bridwell & Mayfield, Wichita Falls	3,883.14	2,030.80
Bridwell & Heydrick, trustee, Wichita Falls	1,185.26	556.13
Bridwell Oil Co., Wichita Falls	78,546.87	31,325.98
Bass & Dillard, Wichita Falls	1,905.58	947.57
Buchanan, A. A., San Antonio	27,120.12	18,480.45
Brown & Lickey, Wichita Falls	793.36	381.07
Bayless, A. A., Fort Worth	770.79	381.15
Barnsdall Oil Co., Tulsa, Okla.	50,450.63	21,492.87
Bell Oil & Gas Co., Tulsa, Okla.	7,066.42	2,336.27
Bowers Oil Co., Vernon	756.31	351.41
Birk, C. E., and C. L. Kelley, Iowa Park	60.04	28.88
Brazelton Brothers & Williams, Graham	2,823.52	1,194.15
Bazzoon, G. A., Vernon	315.62	138.60
Bohner, C. F., Kansas City, Mo.	104.20	38.07
Big State Oil Corp., Houston	883.05	406.10
Brown and Guinn, Wichita Falls	218.22	120.73
Byrd, W. E., Hull	690.91	435.44
Bartlett Production Co., Rockdale	386.92	227.52
Baker, James Blair, Jr., et al, Wichita Falls	2,141.59	942.47
Baker, James Blair, Jr., and C. F. Camp, trustees, Wichita Falls	7,589.56	3,375.09
Baker, James Blair, Jr., and C. F. Camp, trustees "C" lease, Wichita Falls	743.36	331.32
Baldwin, F. C., et al, Fort Worth	1,467.97	737.66
Bynum, & Palmer, Rockdale	79.54	50.11
Bell, E. S., Wichita Falls	152.77	77.73
Baker, J. A., Breckenridge	671.93	303.49
Bailey & Gilliland and Mrs. Fannie Bailey, Wichita Falls	1,060.05	529.50
Bailey, Carl B., Wichita Falls	6,291.27	3,194.47
Benedum-Trees Oil Co., Pittsburgh, Pa.	3,547.85	1,985.90
Big Lake Oil Co., Pittsburgh, Pa.	1,279,023.21	618,161.04
Bill & Dave Oil Corp., Shreveport, La.	136,444.83	34,180.06

Name and address—	Barrels	Value
Bolin, D. H., trustee, Graham	6,765.47	2,360.85
Burkburnett Production Oil Trust, Baltimore, Md.	853.51	421.38
British American Oil Producing Co., Tulsa, Okla.	411,229.32	108,994.30
Burke-Greis Oil Co., Tulsa, Okla.	615.87	253.65
Badger Oil Co., Amarillo	10,382.30	3,857.49
Brazos River Gas Co., Wichita Falls	11,776.94	5,420.75
Butler & McAlister, Olney	293.04	144.52

C

Consolidated Oil Co. of Texas, Wichita Falls	65,097.75	26,975.43
Carey, C. W., Wichita Falls	5,104.47	1,980.74
Conway Bros., Ranger	3,265.11	1,664.22
Conway Bros. and J. F. Champion, Ranger	214.28	159.31
Cardova-Union Oil Corp., Fort Worth	162,850.48	62,702.83
Cunningham, G. H., Loving	581.00	232.40
Church & Weekley, Fort Worth	31,814.30	9,420.38
California Co., Dallas	1,237,952.00	413,961.14
C. R. & M. Drilling Co., San Antonio	18,125.71	13,619.54
Cushing Refining & Gasoline Co., Cushing, Okla.	8,675.94	2,585.23
Cuno, Mrs. Bertha, et al, Moran	1,376.21	734.92
Clark Buffalo Oil Corp., Buffalo, N. Y. (3-31-31)	605.00	597.74
Craig & Lowrie, Pittsburgh, Pa.	1,045.81	359.76
Callihan, George, and Worth Petroleum Co., Albany	431.73	219.46
Callihan, George, and Carter Development Co., Albany	1,657.01	761.46
Carlin, W. W., Ranger (3-31-31)	324.00	294.84
Carlin, W. W., Ranger	320.00	169.60
Crabb & McNeel, San Angelo	375.52	213.34
Clem Oil Co., Houston	319.55	146.65
Cole, W. C., Wichita Falls	1,149.04	526.25
Campbell, J. M., San Antonio (12-31-30)	9,700.27	7,313.66
Cunningham & Lynch, Graham (3-31-31)	3,749.04	3,633.06
Cady, C. C., Moran	254.02	167.24
Col-Tex Oil Co., Somerset (3-31-31)	224.74	135.88
Clarkson, William, Jr., Houston	4,686.77	2,526.60
Clay, J. D., Houston	3,263.13	1,956.97
Collins, J. L., & Co., Corsicana	2,084.27	1,042.14
Cox, Edwin B., Ardmore, Okla.	1,406.30	631.32
Campbell, Alma, Fort Worth	343.91	168.21
Crown Central Petroleum Corp., Houston	36,112.95	20,676.95
Crown Oil & Refining Co., Houston	11,736.57	7,647.32
Chenault, W. L., Amarillo	395.78	166.29
Charter Oil Co., Brownwood	4,430.81	2,408.49
Capitol Oil Co., Orange	288.32	126.86
Columbia Oil & Gas Co., Dallas	36,118.65	9,791.01
Cable Oil Co., Wichita Falls	9,057.86	3,540.38
Christie Bros., Wichita Falls	17,852.69	8,992.67
C. & C. Fuel Oil Co., Lockhart	2,324.50	1,193.50
Cosden, J. S., Inc., Fort Worth	5,707.58	2,312.74
Chalk, Otis	4,923.01	1,436.81
Cooper & Mishler, Wichita Falls	2,375.23	1,131.11
Cooper, G. W., et al, Wichita Falls	1,161.00	460.84
Culbertson Co., Wichita Falls	7,353.36	3,510.96
City National Bank of Wichita Falls, Wichita Falls	726.38	354.01
Conner, Son & Clougbley, Grotebo, Okla.	10,035.32	5,055.32
Connell, Wixson & Frazier, El Dorado, Kans	926.48	379.86
Cullum, F. P., Wichita Falls	11,455.32	5,039.69
Clayton Key Oil & Gas Co., Amarillo	2,475.41	1,039.55
Clark Buffalo Oil Corp., Buffalo, N. Y.	585.64	270.93
Cardinal Oil Co., San Angelo	72,291.23	13,984.40
Carey, W. S., et al, Wichita Falls	364.24	159.33
Caruthers Co., San Antonio	1,219.53	464.29
Cezeaux, P. C., Humble	6,247.00	3,975.00
Culbertson Bros. Co., Fort Worth	41,410.48	8,534.66
Cottom, J. H., Wichita Falls	249.28	107.48
Caltex Oil Co., Somerset	225.92	92.50
Clark, C. W., Wichita Falls	3,995.70	1,802.24
Cranfill-Reynolds Co., Houston	1,118,496.35	377,926.54
Chapman, E. L., Fort Worth	111,598.44	49,059.78
Crosbie, J. E., Inc., Tulsa, Okla.	826.52	257.36
Coline Oil Corp., Oklahoma City, Okla.	1,813.13	913.55
Cullen, H. R., et al, Houston	4,678.36	2,877.77
Cullen & West, Houston	52,718.29	27,749.94
Canyon Oil & Gas Co., Inc., Cross Plains	2,637.14	1,324.21
Cole Petroleum Co., Laredo	9,022.91	5,003.08
Coppock & Coleman, Iowa Park	10,919.00	5,035.84
Coffield & Hale Oil Co., Rockdale	1,192.94	653.68
Clear Lake Oil Co., Rockdale	604.24	334.28
Condor Petroleum Co., Sweetwater	4,226.00	2,180.26
Central Oil Co., Cameron	2,703.58	1,410.42
Camp Oil & Gas Co., Wichita Falls	402.57	200.35
Comet Petroleum Co., Fort Worth	2,169.19	652.15
Cohen, Aaron, Baltimore, Md.	5,721.40	2,936.42
Champlin Refining Co., Enid, Okla.	132,224.00	54,462.04
Clark, R. R., Wichita Falls	8,437.77	4,774.20
Clark, R. R., et al, Wichita Falls	25,253.48	13,152.92
Canary, S. C., et al, Tulsa, Okla.	238.49	101.32
Corvette Oil Corp., Fort Worth	10,713.70	3,010.77
C. P. Oil Co., Henderson	174,074.05	31,596.38
Castlebury, S. A., Vernon	210.55	78.28
Continental Oil Co., Ponca City, Okla.	1,628,161.04	594,429.80

D

Dale & Crawford, Electra	507.03	264.12
Douglas Bros. Oil Co., Electra	1,331.91	695.92
Duval Oil Corp., San Antonio	30,337.32	35,145.54
Davis Oil Corp., Vernon	34,529.21	15,426.25
Derosa Oil & Gas Co., Amarillo	17,085.37	6,328.35
Dye & Gillette, Tulsa, Okla.	2,944.97	1,124.65
Dunaway Bros., Pampa	1,846.00	1,232.58
Driscoll, R., estate, Corpus Christi	22,801.85	13,060.47
Duquesne Oil Corp., Eastland	725.11	340.21
Dean Oil Co., Burkburnett	245.93	108.21
Duffield & Howard Oil Co., Tulsa, Okla.	598.00	210.76
Danciger Oil & Refining Co., Fort Worth	557,762.44	164,391.97
Dale, Jack B., Wichita Falls	2,840.90	1,390.43
D. & L. Production Co., Houston	18,794.14	13,669.77
Dunigan Brothers, Breckenridge	1,891.00	497.77
Delaney, W. A., et al, Ada, Okla.	22,510.03	4,261.69
Derby-Haines-Williams, Wichita, Kans.	535.13	79.46
Derby Oil Co., Wichita, Kans.	2,428.00	822.72
Derby Oil Co., Wichita, Kans.	4,458.51	1,837.41
Derby & Haines, Wichita, Kans.	3,833.33	1,214.60
Devonian Oil Co., Tulsa, Okla.	200,600.89	88,536.76
Duho Oil Co., Houston (3-31-31)	4,920.64	4,180.74
Deering, John A., Houston	28,538.55	19,170.82
Darby Petroleum Corp., Tulsa, Okla.	14,062.76	6,314.05
Duke, W. R., Wichita Falls (3-31-31)	1,442.53	995.34
Duke, W. R., Wichita Falls	912.33	547.39
Dale-Knotts Oil Co., Wichita Falls	243.88	124.48
Daniel Drilling Co., Wichita Falls	1,631.77	820.86
Dash Production Co., San Antonio	97,289.58	78,393.70
Deep Oil Development Co., Wichita Falls	27,367.01	12,222.85
Deep Rock Oil Co., Fort Worth	196.50	160.99
Den-Wich Oil Co., Abilene	1,254.56	922.97
Duho Oil Co., Houston	1,572.03	905.45
Dominion Oil Co., Tulsa, Okla.	423.20	190.17
Dixon Creek Oil & Refining Co., Amarillo	209,743.96	66,069.33
Delmar Oil Co., Bartlesville, Okla.	51,145.54	20,127.59
Dunning, Wm. H., Jr., Fort Worth	66,176.17	13,235.23
Douglas Production Co., Electra	2,881.06	1,366.51
Douglas Brothers & Johns, Electra	767.47	378.23

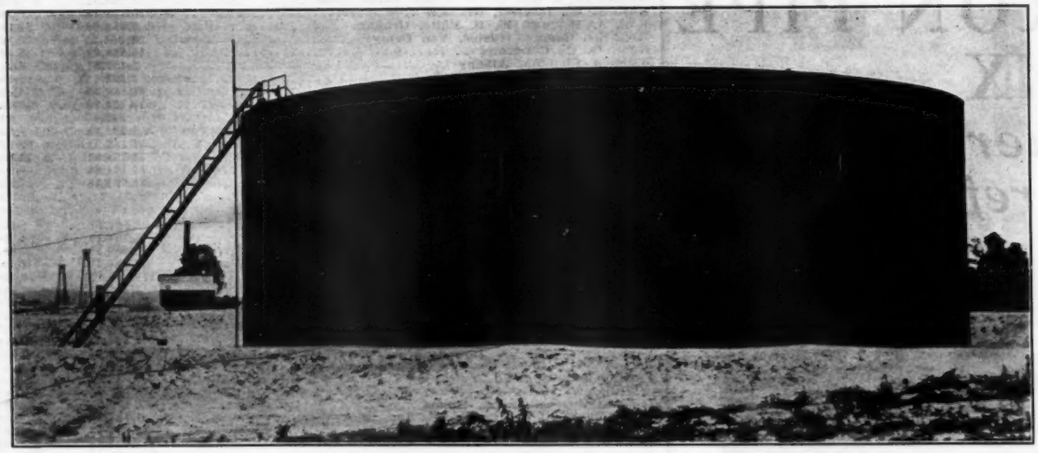
(Continued on next page)

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1931

Name and address—	Barrels	Value
E		
Elliott, Harry W., Fort Worth	343,118.86	61,862.99
East Batson Oil Co., Batson	12,389.08	7,105.62
Ellis & Anderson, San Antonio (3-31-31)	68.22	42.11
Eckert, F. H., San Antonio (3-31-31)	1,289.20	935.31
Eckert & Son, San Antonio (3-31-31)	7,867.42	5,710.20
Eddleman & Payne, Inc., Wichita Falls	3,869.25	2,006.17
Estes, Joe E., Tyler	46,012.36	13,793.68
Estelle Oil Co., Beaumont	394.91	276.43
Empire Gas & Fuel Co. (Maine), Bartlesville, Okla.	355,396.76	176,194.57
Eriewine, A. J., et al, Wilson, Okla.	1,138.35	496.83
Engle, E. A., Albany	2,675.31	1,343.95
El Rio Oil Co., Amarillo	224.46	87.54
Erie Investments Ltd. of Texas, Toronto, Canada	455.65	277.95
Ellis & Anderson, San Antonio	32.85	34.00
Etex Oil Co., Dallas	11,555.48	4,118.32
Emerald Oil Co. of Texas, Winfield, Kans.	4,111.56	2,142.50
Easton, E. S., Wichita Falls	854.71	444.06
Eddy Oil Co., Beaumont	845.37	525.28
Ernest Oil Co., Rockdale	180.31	95.12
East Texas Refining Co., Dallas	348,747.03	192,933.76
Eastland Oil Co., Fort Worth	38,474.11	16,316.11
Electra Production Co., Inc., Electra	746.94	391.38
F		
Frontier Oil Co., San Antonio (3-31-31)	7,512.78	5,343.73
Frontier Oil Co., San Antonio	6,633.85	3,214.14
Fountain Production Co., Saratoga	685.34	372.35
Finston, Mark Special Acct., Tulsa, Okla.	6,546.06	2,821.65
Flynn, W. B., Inc., Beaumont	5,738.31	3,528.26
Fariah & Ireland lease, Houston	5,728.44	3,486.48
Frasher & Breeding, San Antonio	27,299.59	15,383.08
Fos & Adams, Burkett (3-31-31)	1,003.58	401.42
Fleetborn Oil Corp. and Steinberger & Schwab, Tulsa, Okla.	12,353.00	1,852.95
Fulton, Tom, Wichita Falls	526.08	242.10
French Oil Corp., San Antonio	14,494.78	8,222.68
Ferguson, W. R., Wichita Falls	457.80	201.42
Fairway Production Co., Laredo	10,578.08	5,586.31
Floyd, K. J., Glendale, Calif.	87.07	42.66
Fresno Oil Co., Wichita Falls	27,267.16	11,713.13
Falls Production Co., Wichita Falls	3,797.77	1,802.42
Four Oil Co., Wichita Falls	1,347.86	607.63
Freeman-Hampton Oil Corp., Wichita Falls	5,143.01	2,655.18
F. H. E. Oil Co., Fort Worth	36,796.32	15,365.44
Fleming & Kimbell, Fort Worth	3,554.62	1,132.23
Farlyn Oil Co., Houston	4,789.13	1,552.33
Fraser, H. H., Wichita Falls	11,266.47	5,818.23
Farmers State Bank, Burkburnett	729.38	332.85
Franklin, E. J., Tulsa, Okla.	159.10	84.24
Federated Oil Co., Wichita Falls	65,320.75	28,133.52
Franklin, Wirt, Ardmore, Okla.	140.00	69.41
Fox & Butler, Dallas	35,798.58	21,737.25
Fox & Adams, Burkett	1,325.00	424.00
Fullerton, W. R., Wichita Falls	802.00	348.11
Fultz, W. B., et al-J. J. Scott farm, Graham	3,379.52	1,771.31
Faith Oil Corp., Wichita Falls	438.73	180.77
Ferguson & Watson, Electra	894.56	473.31
First National Bank of Wichita Falls, Wichita Falls	2,422.89	1,024.72
G		
Gulf Production Co., Houston	6,795,708.00	2,937,796.76
Gordon, Ann B., Oil Co., Inc., Dallas	1,579.72	844.61
Graham & Lash, Cisco	17.00	5.94
Graham, W. T., Cisco	49.68	18.89
Gaither Production Co., Rockdale	546.06	313.12
Graham, W. T., Cisco (3-31-31)	72.12	66.24
Graham & Lash, Cisco (3-31-31)	23.13	22.67
Gunn Production Co., Cross Plains	547.96	252.96
Gilbert Co., Beaumont	3,080.44	1,737.06
Gladis Oil Co., Saratoga	1,798.42	1,017.13
Glasscock Brothers, Pettus (3-31-31)	421.00	463.10
Gordon Oil Co. of Texas, Logan, Ohio	79.84	50.29
Gray & Adams, Inc., Gainesville	1,704.01	615.46
Gallagher & Lawson, Cisco	251.87	125.30
Goldsmith, N. D., Olney	4,596.24	1,875.30
Gilman, R. F., and M. L. McMurray, Cisco	5,187.81	2,540.75
Glass Brothers, Rosebud	562.11	318.38
Gholson, John M., Ranger	2,890.80	2,132.51
Group No. 1 Oil Corp., Fort Worth	914,070.51	428,172.89
Golden West Oil Co., San Antonio	15,046.58	6,432.93
Green & Owens, Brownwood	2,162.31	1,134.84
Galves Oil Corp., Tulsa, Okla.	2,003.16	1,345.86
Golding & Cochran, Dallas	30,609.15	15,508.42
Golding-Murchison Oil Co., Dallas	313,484.35	193,405.55
Glenridge Oil Corp., St. Louis, Mo.	2,929.08	1,669.58
Granite Oil & Gas Co., Ridgeway, Colo.	303.58	170.71
Glover & Wall, Vernon	592.42	207.43
Gorsuch Oil Co., Abilene	2,645.68	1,111.97
Gedley Oil & Gas Co., Dallas	15,312.00	5,571.94
Gibson Oil Corp., Amarillo	12,135.99	4,138.51
Grady, Mary E., Electra	459.26	243.12
Grady, Mary E. (T. W. Roberts), Electra	170.41	66.83
Grady, D., fee, Electra	447.93	246.93
G. & K. Production Co., Fredericksburg	997.75	415.13
Gates Oil Co., Ardmore, Okla.	2,247.51	1,122.08
Grisham-Hunter Corp., Abilene	2,304.87	1,020.46
G-I Oil Co., Wichita Falls	5,256.98	2,208.39
Gibson-Johnson & Merrick, Fort Worth	24,348.60	6,152.25
Gilliman Bros., Amarillo	748.20	289.44
Gates Oil Co., San Antonio	1,268.79	431.36
Graham, Chas., Myra	529.44	191.53
Grassroots Oil Co., Fort Worth	870.20	376.14
Grayburg Oil Co., San Antonio	132,161.72	44,281.42
Grayback Development Corp., Wichita Falls	3,769.35	1,797.38
Gwynn-Boyd Drilling Co., Wichita Falls	1,242.73	654.88
Gwynn, P. F., Wichita Falls	19,445.00	7,675.74
Gwynn, P. F., Wichita Falls	1,279.36	571.20
Glasscock Brothers, Longview	238.90	258.50
Ginter Lange Oil Co., Nacagdoches	1,215.00	555.32
Ginter Jones Oil Co., Nacogdoches	374.16	159.94
Gatlin Oil Co., San Antonio	4,720.23	2,260.18
Gulf Coast Oil Co., Houston	418,851.30	107,440.26
Gilman & Conway Brothers, Ranger	3,532.43	1,850.44
Gilcrease Oil Co., Tulsa, Okla.	33,747.86	13,461.40
Green, W. J., Wichita Falls	136.38	55.46
Gates-Baron Lea, Wichita Falls	4,400.64	2,163.68
Gardner, Wilson & McCaldin, Wichita Falls	803.64	358.08
Golding, Dudley S., Dallas	16,131.59	6,890.87
H		
Humble Oil & Refining Co., Houston	7,862,046.37	3,856,814.40
Humphreys Brothers, Inc., et al, Denver, Colo.	350.36	140.34
Humphreys Corp., Houston	789,594.65	517,158.44
H-Y Oil Co., Fort Worth	12,036.47	5,943.07
Hull, L. V., Wichita Falls	4,259.52	2,146.26
Hope Oil & Gas Co., Fort Worth	10,040.40	4,920.66
Herring, S. C., Brownwood	500.00	230.36
Harrison Oil Co., Houston	48,088.69	27,484.33
Harper Petroleum Corp., Bryson	14,778.31	7,687.30
Hyer, Fred, Fort Worth	19,070.40	5,513.31
Hoppes, W. T., Burkburnett	30.14	16.57
Hoppes, W. T., Burkburnett	507.11	241.58
Hunter, I. F., Wichita Falls	17,189.71	9,108.44
Hammond & Waggoner, Wichita Falls	485.77	250.39
Hickory Oil & Gas Corp., Fort Worth	3,630.32	1,915.12
Home Oil & Gas Co., Albany	1,283.54	588.89
Hankamer, Earl C., & Co., Sour Lake (3-31-31)	214.64	148.10
Hankamer, Earl C., & Co., Sour Lake	202.11	109.08
Hyde & James, Albany	371.28	160.62
Hedges, F. M., Wichita Falls	259.34	160.44
Hamill-Smith Oil Corp., Houston (3-31-31)	.....	6,269.22
Haskell, Frank, Tulsa, Okla.	1,590.50	1,294.38
Holmes-Newblock lease, Amarillo	6,546.48	2,188.20
Holmes Brothers-Quinn lease, Amarillo	17,749.26	5,826.35
Holmes, Hill, Seibold & Holmes, Amarillo	19,770.95	7,147.31
Holmes Brothers-Moore lease, Amarillo	4,741.54	1,748.23
Horn, T. W., Houston	322.10	217.43
Hutchinson Drilling Co., Borger (3-31-31)	472.62	305.80
Howard County Oil Corp., Big Spring (3-31-31)	21,084.54	12,002.10
Hammond, J. G., Fort Worth (3-31-31)	120.10	110.64
Holder, F. W., and J. B. Gordon, Breckenridge (3-31-31)	178.67	139.01
Hoffman, P. L., Cisco	5,791.94	2,480.64
Hawkins, W. L., Wichita Falls	2,167.44	1,302.08
Horseshoe Lease Syndicate, Henderson	56,399.37	14,099.82
Hamill & Hamill, Bay City	3,241.01	1,571.98
Hamill-Smith Oil Corp., Houston	8,297.00	4,846.04
H. & H. Drilling Co., Seminole, Okla.	353.00	199.82
Douglas, J. L., Moran	1,085.25	614.30
Hickok Producing & Development Co., Toledo, Ohio	173.76	130.71
Hoffman & Page Co., Eastland	14,476.09	7,195.39
Hamilton, W. L., Bridgetown	495.05	266.89
Hadlock Oil Corp., El Paso	433.31	159.13
Heidrich, E. C., Jr., Amarillo	1,623.42	544.52
Helvetia Oil Co., San Antonio	10,065.13	4,365.65
Hines, Henry, Wichita Falls	2,649.48	1,338.30
Howard, Duffield & Berlin, Tulsa, Okla.	793.88	276.19
Hobbs, Ferguson & Neeley, Addison, H. Gibson, Leroy Adams, Tulsa, Okla.	3,054.87	1,815.15
Halmack Oil Co., Dallas	125.55	61.28
Howard Petroleum Corp., Tulsa, Okla.	317.78	285.14
Hitchman & Howard, Inc., San Antonio	1,642.49	721.39
Houston Production Co., Houston	53,538.27	31,282.08
Hindman & Ward, Henderson	27,786.73	6,946.43
Houston Oil Co. of Texas, et al, Houston	1,681,251.18	610,261.43
Herrogan Oil Corp., Pampa	7,239.96	2,449.98
Harris & Simon, Tulsa, Okla.	2,165.85	710.56
Hunter Oil Corp., Chicago, Ill.	17,367.30	9,060.39
Haynes Drilling Co., Inc., Shreveport, La.	78,563.13	31,803.49
Hamlon Gasoline Co., Tulsa, Okla.	1,797.95	812.58
Hemisphere Oil Corp., New York, N. Y.	11,372.70	4,249.39
Hopkins, Edwin B., Longview	18,322.86	8,962.19
Huber, J. M., Petroleum Co., Borger	19,328.26	5,798.48
Harrell, J. T., Wichita Falls	1,354.55	657.61
Houghland Production Co., Dallas	1,052.96	612.03
Hemby, J. M., Electra	853.13	433.15
Hickey, T. J., et al, Corsicana	58.58	34.90
Harwell, E. P., Tulsa, Okla.	584.33	273.22
Hill & Dowell, Batson	8,428.09	4,871.04
Hamilton & Martin, Wichita Falls	302.12	128.77
Heep Oil Corp., Houston	80,309.88	22,396.56
Hampton & Wilson, Wichita Falls	96.90	38.03
Haskell, Frank, Tulsa, Okla.	1,555.67	695.64
Hobson & Voorhees, San Antonio	503.69	220.23
Houston Gulf Gas Co., Houston	5,619.49	3,532.96
Hunt, H. L., trustee, Tyler	424,671.27	105,645.80
Huey, Ora, Borger	1,298.68	457.67
Hardie, J. M., & Co., Sour Lake	154.16	93.02
Howard County Oil Corp., Big Spring and Longview	32,368.79	6,650.48
Haya, F. C., trustee, Tulsa, Okla.	1,211.08	607.47
Holbrook & Wood, Wichita Falls	3,794.88	1,521.85
Holcombe, Thomas, Wichita Falls	1,605.28	753.40
Hamilton, Walter R., trustee, San Antonio	3,468.48	1,732.86
Hambleton, George, San Antonio	8,048.14	3,920.39
Hammon & Heyser, Wichita Falls	27,160.60	12,220.06
Hammon, W. H., Wichita Falls	4,370.00	1,616.90
H. A. M. Oil Co., Chicago, Ill.	1,370.33	576.61
Hardy Oil Co., Wichita Falls	4,045.53	1,829.03
Herbert Oil Co. of Texas, Fort Worth	14,720.79	7,583.78
Hughes, J. K., Oil Co., Mexia	148.52	69.27
Hawley, J. A., guardian, estate Kevin Hawley, Ottawa, Ontario, Canada	465.52	213.87
Hefley, McIntosh & Thomas, Cameron	3,235.98	1,721.71
Hedrick-Camp Drilling Co., Wichita Falls	66.04	27.07
Handrick, August, Moran	4,707.65	2,290.79
Hammond, J. G., Fort Worth	94.31	60.70
Hamon, Jake L., Ardmore, Okla.	20,893.04	10,530.85
Heydrick, L. C., Wichita Falls	9,253.05	4,111.20
Hamilton, W. B., Wichita Falls	54,953.96	17,699.64
H. B. J. Oil & Gas Trust, Baltimore, Md.	1,372.35	667.78
Hobbs Oil Co., Tulsa, Okla.	1,169.87	557.77
Hunt, H. L., Tyler	4,275.76	1,489.31
Hayes, Reese L., Wichita Falls	1,438.45	649.66
I		
Imperator Oil Corp., Dallas	152,995.20	29,199.95
Infield Petroleum Co., Austin	675.00	135.00
Irick Oil Co., Waskom	152.54	93.05
Investors Oil & Gas Co., Sioux Falls, S. D.	983.76	492.04
J		
Jenkins Oil Corp. and Hamilton Co., Dallas	217,540.68(part)	97,893.30
Janellen Oil Co., Tulsa, Okla.	124.96	62.48
Jones, J. A., Moran	68.45	39.01
Johnson Brothers, San Antonio	4,452.78	1,962.07
Jones-Doss Oil Co., Oklahoma City, Okla.	4,589.00	917.80
Justin Oil Corp., Woodhaven, Long Island, N. Y.	6,229.43	2,986.49
Jones, W. A., Oil Co., Minerva	84.04	51.26
Julia Oil Co., Sour Lake	2,804.16	1,586.21
Jones, E. W. and F. D., Drilling Co., Dallas	13,340.70	4,767.54
Jones, O. P., and C. J. Oates, Amarillo	250.00	62.50
James & Klinger, Albany	981.75	588.78
James & Klinger, Albany	732.00	435.36
James, Tom, Albany	3,738.30	1,345.02
Jackson, J. S., trustee, Sour Lake	1,381.40	818.54
Jones, Edwin M., San Antonio	795,782.23	290,238.56
Jonray Oil Co., San Antonio	1,541.80	642.25
Jones, R. C., Cushing, Okla.	5,838.00	2,620.45
Jones, J. E., Wichita Falls	2,254.25	1,052.59
Jenkins Oil Corp. and Hamilton Petroleum Co., Dallas	217,540.68	97,893.30
Johnson, F. T., Wichita Falls	495.29	212.41
Jones, Hugh, Burkburnett	3,103.00	1,415.65
Jacob Oil & Gas Co., Graham	1,040.02	532.17
Judson Oil Co., Tulsa, Okla.	4,764.87	2,785.01
K		
Knotts, Nona A., Wichita Falls	610.63	324.63
Kokomo Petroleum Co., Gorman	255.00	155.55
Kurz, A. A., Somerset	137.83	63.40
Karona Oil Co., Corpus Christi (3-31-31)	6,056.93	4,179.28
Keller, J. E., Iowa Park	78.72	39.75
Kavanaugh Petroleum Co., Houston	3,157.50	1,498.33
Kleinfelder, B. F., Breckenridge	247.86	113.56
Kirby Petroleum Co., Houston	187,668.34	52,742.00
King Royalty Co., Wichita Falls	206,054.38	88,458.80
Kate Bell Oil Co., Dallas	720.79	356.09
Keystone Petroleum Co. of Texas, Fort Worth	2,388.12	1,197.98
Karona Oil Co., Corpus Christi	108,846.80	42,570.58
Kepley Production Co., Laredo	33,149.43	23,966.23
Kendrick, P. S., Albany	1,859.25	958.65
King, R. A., trustee, Wichita Falls	1,463.28	807.69
Kewanee Oil & Gas Co., Titusville, Pa.	119,401.30	55,426.61
Koenig, Max W., Oakland, Calif.	15,718.27	5,491.89
Kahle, Gracey & Diver, Dallas	1,365.85	383.94
Kokomo Petroleum Co., Gorman	57.00	30.21
Keck Investment Co., Los Angeles, Calif. (April, 1930)	1,199.48	399.43

(Continued on next page)

PITTSBURGH DES MOINES



Store East Texas Oil for BETTER PRICES!

Here's an 80,000-barrel "Pittsburgh-Des Moines" storage tank (just erected) that's giving yeoman service at Kilgore, Texas, during the present disrupted state of the crude market.

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Greatly Improved M-S-A HOSE MASKS

At No Increase in Prices

Afford wearer Complete Protection in Poisonous Gases and Oxygen Deficient Atmospheres. Widely used for entering and working in Tank Cars, Oil Tanks, Shipholds, Gas Holders, Sewers, Etc.

Bulletin No. 66 Gives Complete Information

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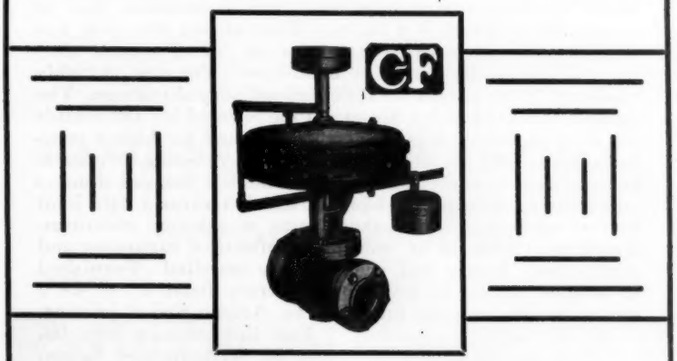
Mine Safety Appliances Co

Braddock, Thomas and Meade Sts., Pittsburgh, Pa.

"EVERYTHING FOR MINE AND INDUSTRIAL SAFETY"

Unusually Sensitive Control



The Fulton Duplex Sensitive Gas Governor is designed to control a high and varying inlet pressure of natural or manufactured gas and reduce it to a low and unvarying outlet pressure for illumination or fuel purposes.

Two diaphragms of equal area move in opposite directions but transmit their power in the same direction, thus giving a vast increase in sensitiveness and power over that of a single diaphragm governor.

Due to the simplicity of its construction, it is easily and quickly installed and requires but little attention afterward.

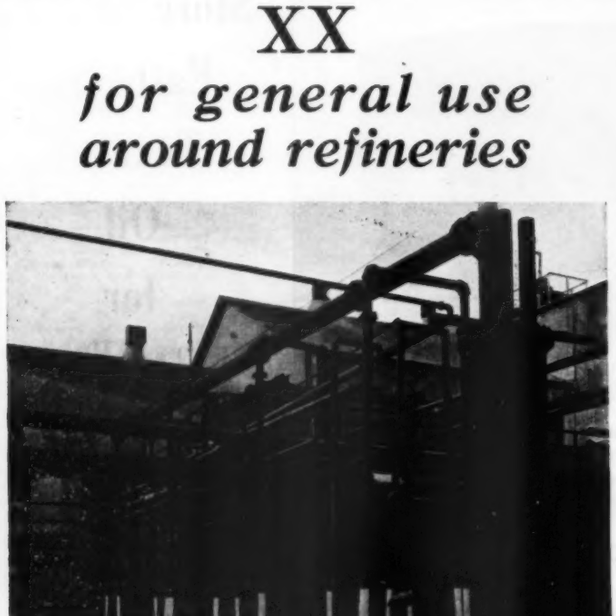
Details Upon Request.

THE CHAPLIN-FULTON MFG. CO.

28-40 Penn Avenue — Pittsburgh, Pa.

XX DOUBLEX SIMPLEX CAST IRON PIPE XX

for general use around refineries



DOUBLEX Simplex Cast Iron Pipe and Fittings are especially recommended for run-down lines, low pressure steam lines, hot water lines, gas lines, and other services where expansion and contraction due to temperature change is a factor. Made of cast iron only one degree removed from its natural state (or of special alloy iron for especially corrosive conditions), the pipe is highly resistant to the corrosive action of refinery distillates. The lightest weight Doublex Simplex Pipe is rated for 150 pounds working pressure; it is regularly furnished for higher pressures up to 600 pounds. This corrosion-resisting, pressure-bearing pipe is equipped with the Doublex Simplex Joint—an exclusive Acipco development which assures a tight joint against separation and leakage even at extreme pressures. Ample provision for unusual joint deflection, expansion and contraction. Easily and economically installed. Furnished in lengths up to 16 feet, in diameters from 2" to 24"; longer lengths may be furnished by Acipco fusion jointing. Full line of cast iron fittings. Write nearest Acipco office for descriptive catalog.

DOUBLEX SIMPLEX JOINT

A gland-packed joint similar in principle to a stuffing box. Friction grip of gasket against surfaces of pipe gives a joint that remains bottle-tight even under repeated deflections, extreme pressures and temperatures.

AMERICAN CAST IRON PIPE CO. BIRMINGHAM ALABAMA

SAN FRANCISCO DALLAS NEW YORK CITY | CHICAGO MINNEAPOLIS SEATTLE | KANSAS CITY LOS ANGELES CLEVELAND

319R

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1931

Name and address—	Barrels	Value
Kurs Oil Co., Somerset	405.40	164.04
Kistler, Frank E., & Co., Inc., San Antonio	2,266.48	668.16
Kathleen Oil Co., McAlester, Okla.	57,317.00	14,942.00
Kisk Oil Co., Wichita Falls	2,520.20	1,735.38
Killam, O. W., Laredo	225,209.43	130,754.94
Kaufman, L., San Antonio	325.19	130.79
Kemrow Co., Wooster, Ohio	11,549.16	5,379.76
Keener Oil & Gas Co. of Texas, Tulsa, Okla.	3,109.32	29.93
Kay, A. W., receiver, Graham	338.18	166.42
Kay, A. W., and W. B. Fultz, Graham	5,658.09	3,025.73
Kiemche, George, trustee, Von Ormy	1,264.23	495.70
Kent, G. C., Corsicana	16,828.04	8,111.53
Kiser & Fleming, Albany	2,432.31	1,276.89
King & Daniel, Wichita Falls	3,928.62	1,960.81
Kingwood Oil Co., Okmulgee, Okla.	14,880.75	4,413.53
Kleiner, Charles J., Cisco	28,439.79	13,197.94
Kerr, T. P., Corsicana	542.07	287.36
Kuhlemeier-Kleiner Oil Co., Cisco	1,221.28	623.03
Kolp, C. F., and others "B" lease, Tyler	57,187.92	12,127.85
Kolp, C. F., and others "A" lease, Tyler	54,798.91	24,846.28
Kolp, C. F., Tyler	14,114.69	6,873.62
K. & M. Oil Co., San Antonio	92,674.18	27,615.51
L		
Lesh, John L. & Co., Nocona	3,521.71	1,166.15
Lockhart & Co., Los Angeles, Calif.	76,797.19	26,950.23
Langford Oil Co., Wichita Falls	980.38	475.67
Lido Oil Co., Wichita Falls, and McGinley Corp., Fort Worth	11,740.73	4,694.53
Louisiana Oil Refining Corp., Shreveport, La.	177,288.75	79,420.95
Loggie & Arendt Oil Co., Albany	1,785.00	780.03
Langford Oil Co., Wichita Falls (3-31-31)	1,078.15	776.15
Lewis, J. E., & Co., Eastland (3-31-31)	1,345.90	1,224.64
Lowe, W. E., DeLeon (3-31-31)	65.47	47.79
Laredo Oil Co., Inc., Laredo	464.61	368.80
Lefors Petroleum Co., Inc., Lefors	20,303.21	7,975.29
Leck Royalty & Oil Co., Fort Worth	3,695.46	1,898.21
LaSalle Petroleum Co., Tulsa, Okla., W. J. Schnur and Phil D. Williams, receivers	3,269.52	1,462.07
Lone Star Gasoline Co., Dallas	6,101.00	2,957.41
Leiser-Rochmill Production Co., Inc., Fort Worth	1,134.10	642.15
Lewis Production Co., Pittsburgh, Pa.	46,221.73	19,505.11
Lytle, C. F., Mexia	7,638.24	3,789.22
Lide-Tayloe Oil Co., Inc., Shreveport, La.	105,175.44	27,969.31
Lackey, W. G., Co., Tulsa, Okla.	(not shown)	885.81
Little, William, Breckenridge	229.37	94.38
Lake View Oil Co., Sour Lake	8,746.18	4,257.20
Lone Star Gas Co., Dallas	21,173.00	10,908.17
Long, C. B., and others, Wichita Falls	698.24	367.28
Lesh, Kilcrease & Co., Nocona	2,023.95	675.73
Lesh & McCall, Nocona	6,689.70	2,130.54
Lewis Production Co., Pittsburgh, Pa.	11,670.29	3,457.13
Long, L. A., and others, Graham	11,605.45	7,659.42
Leonard & Patillo, Somerset	116.25	48.86
Leonard, George, Somerset	869.00	355.45
Letwin & Lippitt, Breckenridge	14,472.00	6,835.60
Lake Graham Oil Co., Houston	1,761.82	1,120.06
Larcro Gas & Petroleum Co., San Antonio	49,809.99	21,916.39
Lowenstein Oil Co., Rockdale	855.99	555.60
Lion Oil Refining Co., El Dorado, Ark.	[illegible]	134,966.02
Layne, L. A., Houston	52,105.80	[illegible]
Lide-Rowe Oil Co., Inc., Shreveport, La.	95,805.23	23,633.29
Lee & Scott, Inc., Houston	2,469.01	1,554.99
Lee & Wilson, Houston	2,964.89	1,896.82
Luling Oil & Gas Co., San Antonio	237,496.28	60,263.56
Lloyd Oil Corp., Fort Worth	12,664.92	3,166.23
Landreth Production Corp., Fort Worth	130,210.59	41,337.06
Lewis, J. E., and others, Eastland	699.40	327.00
Lewis, J. E., & Co. and others, Eastland	1,253.80	635.60
Len-Cook Oil Co., Electra	323.60	175.33
Lawson, estate of Eugene B., deceased, Tulsa, Okla.	23,695.91	11,206.24
Lebow, C. H., Tulsa, Okla.	1,128.02	594.23
Lowe, Delaney & Carter, DeLeon	1,974.94	925.67
Leonard Petroleum Co., Washington, Pa.	8,312.85	2,988.15
Long, Roy, Oil Co., Navasota (3-31-31)	1,215.64	687.97
Lee, Homer, Wichita Falls	9,342.39	4,241.37
Mc		
McChesney, Nancy, Olney	3,790.71	945.29
McCrary, E. W., Tulsa, Okla.	4,438.06	2,039.59
McJunkin, Florence T., Tulsa, Okla.	315.93	171.91
McAlbert Oil Co., Inc., Houston	91,969.35	59,645.99
McDaniel, D. B., Houston	140,449.45	86,211.93
McGinley Corp., Fort Worth	2,935.18	1,173.63
McDonald & Campbell, Dallas	4,189.13	1,814.79
McMahon, Charles L., Tulsa, Okla.	124,591.87	33,060.43
McKanna, Inc., Wichita Falls	5,796.28	2,966.89
McNallen & Griffin, Tulsa, Okla.	5,444.80	2,596.54
McMurray, Root & Rhodes, Eastland	818.00	427.00
McClintock, J. G., Santa Monica, Calif.	4,613.00	1,550.74
McNamara Oil Co., Beaumont	2,019.40	1,127.64
McCarty Oil Co., Wichita Falls	55,566.54	28,342.41
McCutchen, C. E., trustee, Wichita Falls	2,594.23	1,417.18
McLester Oil Co., Eastland	4,968.39	2,622.94
McBride, W. C., Inc., St. Louis, Mo.	5,865.08	2,776.84
McIlroy Oil Co., Amarillo	22,853.92	5,260.60
McCutchen, C. E., Wichita Falls	156.44	83.32
McDaniel Oil Corp., Cisco	.....	1,980.57
McCarter, R. C., Rising Star	570.21	287.74
McMurray, J. L., and others, Cisco	1,629.85	855.70
M		
Moody Corp., Lewis Fisher and Thomas H. Ball, receivers, Houston	599,211.15	140,904.73
Mills Bennett Production Co., Houston	359,889.81	197,981.55
Mullendore, Berry & Berry, Cleveland, Okla.	38,705.22	11,038.68
Medio Oil Co., San Antonio	868.15	414.91
Marnet Oil & Gas Co., Tulsa, Okla.	4,856.33	2,538.54
Mues & MacDermott, Fort Worth	396.99	184.52
MacDermott, W. F., Fort Worth	489.76	250.76
Minor Oil Co., Beaumont	7,659.95	4,289.57
Moss, George, Batson	298.51	179.11
Mecom Oil Co., Liberty (3-31-31)	2,243.00	1,794.35
Mills & Garitty, Corsicana	2,302.76	1,151.38
Mann, Floyd, Graham (3-31-31)	1,422.32	1,319.63
Massey & Black, McCamey	546.17	136.55
Madison Oil & Gas Co., Electra	2,508.73	1,291.02
Mount & Lee, Inc., Wichita Falls	1,467.49	734.51
Mendenhall Oil Co., Cisco	934.17	487.24
Mitcham, G. P., Cisco	662.89	328.28
Murchison Oil Co., Dallas	50,271.87	19,052.24
Mudge Oil Co. of Texas, Pittsburgh, Pa.	12,082.12	2,937.00
Montgomery, Rea & Montgomery, Sedwick	1,100.58	549.05
M. & V. Oil Co., Wichita Falls	2,153.81	899.83
Markham & Dunning, Fort Worth	233,073.32	75,259.79
Mid-Kansas Oil & Gas Co., Findlay, Ohio	3,249,566.78	1,086,050.01
Moutay Oil Co., Abilene	4,694.31	1,667.55
Moore, George N., and Henry Zweifel, receivers, Cosden Oil Co.	188,583.83	74,316.37
Midwest & Gulf Co. of Texas, Tulsa, Okla.	618.28	272.28
Mordyan Petroleum Co., Pampa	15,615.59	6,356.23
Medina Oil & Gas Association, San Antonio	121.71	50.78
Meredith & Gant, Wichita Falls	1,860.23	777.41
Morgan, Ray and others, Fort Worth	812.63	409.79
Mabee, J. E., Co., Tulsa, Okla.	174,280.52	69,931.24
Moran Co., Wichita Falls	6,906.07	3,165.83

(Continued on next page)

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1931

Name and address—	Barrels	Value
Mid-Continent Petroleum Corp., Tulsa, Okla.	14,600.27	6,417.94
Minerva Petroleum Co., Minerva	484.34	267.40
Mitchell, Frank A., Administrator, estate of Amos J. Mitchell, Wichita Falls	3,053.03	577.08
Millikin, L. L., Burkburnett	306.21	145.71
Magnolia Petroleum Co., Dallas	3,275,556.97	1,489,410.23
Martin, N. H., Wichita Falls	7,973.24	2,960.13
Martin & Hamilton, Wichita Falls	2,252.82	1,006.22
Macknold Co., San Antonio	129.86	55.54
Minntex Oil Corp., Wichita Falls	594.00	269.48
Moss, Urschel & Keys, Dallas	4,353.66	2,231.79
Moss & Urschel, Dallas	11,323.70	5,750.77
Marine Corp., Dallas	173,118.89	39,312.97
Mayberry, C. R., Co., Laredo	1,931.88	1,094.27
Marts, E. R., and others, Dallas	10,493.74	4,923.12
Meridian Petroleum Corp. of Texas, Tulsa, Okla.	19,329.26	7,738.55
Mann, Floyd, Graham (6-30-31)	1,297.45	612.96
Mecom Oil Co., Liberty (6-30-31)	3,303.65	2,119.82
Merrick & Belcher, Wichita Falls	4,938.04	2,610.90
Merrick & Goldsmith, Wichita Falls	2,597.45	1,369.38
Merrick, John F., Wichita Falls	49,442.38	15,593.12
Moran, J. J., and others, Wichita Falls	3,758.98	1,492.19
Maxwell, J. C., Fort Worth	32,117.17	9,935.96
Moody-Seagraves Producing Co., Houston	629,194.56	445,765.83
Moore, N. A., Eastland	648.30	157.12
Massie, J. H., Wichita Falls	33,315.91	15,959.02
Milham Corp. of Texas, Fort Worth	1,015.10	514.40
Meredith, J. D., Moran	2,576.90	1,032.85
Magee, R. B., Wichita Falls	699.78	244.92
Mid-Texas Petroleum Co., Oklahoma City, Okla.	11,703.24	5,631.66
Margay Oil Corp., Tulsa, Okla.	69,805.78	220.27
Midland Oil Co., Fort Worth	253.27	112.83
Merrick & Bristow, Ardmore, Okla.	44,949.05	11,432.67
Merrick & Lamb, Ardmore, Okla.	23,303.42	8,510.03
Menke, John G., Wichita Falls	520.26	308.44
Mabee, J. E., Co., Tulsa, Okla.	14,979.61	4,034.11
Manning Oil Corp., Oklahoma City, Okla. (3-31-31)	4,916.16	4,735.29
Mid-Continent Holding Corp., Wichita Falls (3-31-31)	13,452.70	10,412.86
N		
National Oil Co., San Antonio	596.76	218.48
Nix & Dale, Wichita Falls	2,731.67	1,655.34
Newton & Lillie, Shreveport, La.	16,782.19	10,449.12
Nutt & Gates, Wichita Falls	1,585.26	852.01
Newport & Ohio Petroleum Co., Newport, N. Y.	472.59	239.28
Nash & Windfohr Oil Corp., Graham	41,630.96	22,167.59
Neversuch Oil Co., Mexia	648,684.00	3,390.36
Noack & Lanning-Phillips & Perry, Rockdale	76.51	45.14
Noack & Lanning-Shelton, Rockdale	164.16	80.05
Noack Oil Co., Rockdale	1,009.11	569.66
Navarro Oil Co., Houston	216,725.77	98,218.96
Newton-Palmer Oil Co., Rockdale	302.90	175.34
Nash-Windfohr & Perry, Austin	40,862.17	20,176.24
National Oil & Grease Co., Dallas	35,130.00	3,513.00
Nat-Hunter Producing Co., Tyler	395,973.48	67,462.69
Number Nine Oil Corp., Tulsa, Okla.	2,162.60	1,091.38
Nunn-Stubblefield, Amarillo	15,238.10	5,429.51
O		
Oil Investment Co., Wichita Falls	2,034.05	1,002.44
Owenwood Pool No. 3, Fort Worth	10,027.00	2,632.72
Onsen, M., Kansas City, Mo. (3-31-31)	914.29	726.55
Omilak Oil Co., care W. J. Mayers, Somerset (3-31-31)	157.76	100.02
Ohio Somerset Oil Co., Cleveland, Ohio	174.68	66.39
Oliphant, A. G., Tulsa, Okla.	56,953.38	25,127.91
Oriental Oil Co., Dallas	58,404.67	20,586.07
O'Neil, John, Wichita Falls	9,313.75	5,672.51
Oldom, William P., Iowa Park	467.00	250.75
O. & A. Co., Laredo	2,153.63	1,226.52
Olney Oil & Refining Co., Wichita Falls	152.70	79.54
Olean Petroleum Co., Bristow, Okla.	8,337.42	3,125.22
Owen-Sloan Oil Co., Tulsa, Okla.	55,677.30	16,539.89
Omilak Oil Co., care W. J. Mayers, Somerset (6-30-31)	141.49	60.39
Overton Refining Co., Inc., Overton	26,563.82	2,656.38
Olvey, J. W., and Clark Sample, El Dorado, Ark.	532,222.12	256,323.11
Orange Petroleum Corp., Orangefield	24,676.76	14,867.31
Onsen, Mamie, Kansas City, Mo.	845.95	449.70
Onsen, M., Kansas City, Mo. (6-30-31)	1,072.09	571.04
Oasis Oil Co., Wichita Falls	41.45	20.31
P		
Pure Oil Co., Chicago, Ill.	3,178,513.31	1,463,905.53
Pure Oil Co., Chicago, Ill.	697,277.78	325,946.10
Powell, J. L., estate, Wichita Falls	371.77	188.66
Pollard, W. E. and C. E., Pampa	5,234.38	1,699.19
Permian Oil Co. and Gibson & Johnson, Inc., Eastland	3,458.21	893.37
Petroleum Investment Co., Wichita Falls	3,086.08	2,353.21
Pinto Oil Co., Mineral Wells (3-31-31)	129.91	104.49
Phillips, J. R., Amarillo	313.87	94.16
Petroleum Producers Co., Wichita Falls	86,100.25	40,199.35
Pilot Oil Co., Dallas	60,523.90	23,638.24
Progressive Production Co., Kansas City, Mo.	1,152.58	898.27
Prechel, Walter, Wichita Falls	797.25	556.50
Pearson Oil Co., San Antonio	266.13	239.51
Powell, H. J., trustee, San Antonio	2,363.03	1,566.53
Palmer, Freddie, Oil Co., Rockdale (3-31-31)	120.26	87.68
Palmer, Freddie, Oil Co., Rockdale (6-30-31)	63.49	60.95
Piper, L. E., trustee, Vernon	1,723.52	917.84
Pettit Oil Corp., Trees, La.	1,076.70	620.02
Primrose Oil Co., Sour Lake	679.24	411.76
Putnam Oil Co., Tulsa, Okla.	26,724.56	13,042.34
Pois, Fine & Schultz, Wichita Falls	552.98	376.72
Palmer & Burch, Inc., Wichita Falls	5,257.10	2,490.19
Paggi, Charles, & Co., Beaumont	686.22	409.99
Paggi Brothers Oil Co., Beaumont	7,825.30	4,467.58
Panhandle Refining Co., Wichita Falls	106,212.74	51,089.45
Producers & Refiners Corp., Independence, Kans.	5,113.17	2,128.95
Primrose Refining Co., Wichita Falls	6,294.04	2,484.44
Pitzer & West, Breckenridge	30,693.01	17,404.37
Panhandle & Santa Fe Railway Co., Wichita, Kans.	4,081.80	1,224.54
Pois, M., trustee, Wichita Falls	176.30	85.75
Pois, M., and others, Wichita Falls	3,323.78	1,752.08
Pennowa Oil & Gas Co., Skiatook, Okla.	5,036.49	1,443.05
Peery, Thomas H., Wichita Falls	3,049.52	1,495.77
Carl Pursel (Grayce Oil Co.) (Darby Lynde Co.), Tulsa, Okla.	13,475.54	6,509.15
Putnam Supply Co. and McGee, Albany	361.35	158.87
Pioneer Oil, Gas & Refining Co., Danville, Ill.	904.69	368.39
Paraffine Oil Co., Houston	13,988.91	7,903.90
Pace & Ward, Breckenridge	692.72	340.51
Pilkerton, F. L., Burkburnett	688.71	277.48
Palm, F. N., and others, Moran	597.46	228.12
Producers Oil Co., Tulsa, Okla.	47,707.52	22,245.35
Pure Oil Co., Chicago, Ill.	37,596.42	27,410.38
Pivoto, M. E., Sour Lake	4,538.83	2,643.83
Proctor, George, Wichita Falls	14,451.16	7,659.74
Penn Oil Co., Dallas	13,105.73	5,032.12
Pilot Oil Co., Dallas	748,091.20	186,189.34
Peckham, F. W., Stamford	358.00	181.25
Producers Drilling Co., Wichita Falls	1,248.01	625.06
Petroleum Marketing Corp., Houston	321,665.12	76,602.72
Price, Russell & Co., Ranger	2,527.88	1,037.89
Porterfield, R. R., Overton	4,921.45	1,748.64

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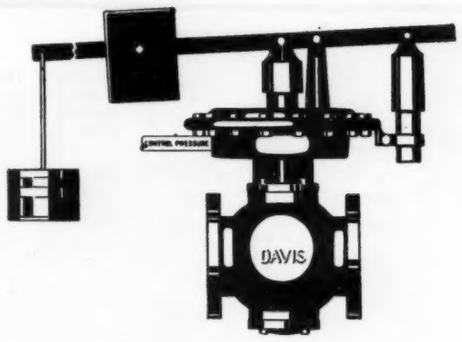


from 200 pounds to 50 pounds

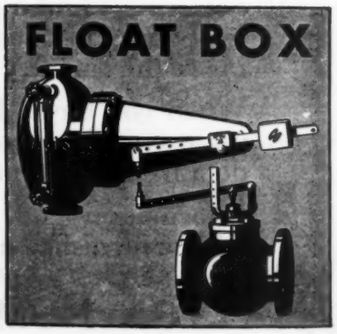
THAT or any other pressure reduction is the service performed automatically by the Davis Gas Pressure Regulator.

This valve is of the balanced, counter-weighted diaphragm type. Control pressure acts on the diaphragm tending to close the valve in opposition to the counter-weight which holds it open. The Davis Regulator has no packing box. The disc is balanced and properly shaped for minimum and maximum flow. An oil dash pot steadies the action and prevents vibration, so that flow is smooth and accurate. The action is visible and may be hand tested.

Give details of your problem and let us recommend a guaranteed Davis Pressure Regulator for the service.

DAVIS REGULATOR COMPANY
2543 S. Washtenaw Avenue
CHICAGO, ILLINOIS

WESTCOTT & GREIS, INC.
Sales Engineers
TULSA LOS ANGELES DALLAS



Automatic valve makers for over fifty years

DAVIS VALVE SPECIALTIES

OGJ 9-3 Gray

Interior of Hayton multistage pump showing open impeller construction.

A PUMP

FOR EVERY NEED

HAYTON pumps are used in every branch of the oil industry. Months of continuous service under the most adverse conditions have brought forth enthusiastic comments from their owners . . . . Engineers have been quick to note and appreciate the superiority of the open impeller design and the other outstanding features of Hayton construction.

Hayton pumps are manufactured in both single and multi-stages and in a wide range of sizes to meet any pumping requirement.

When you buy a Hayton centrifugal pump you buy endurance and freedom from constant attention.

Information and performance data will be furnished upon request.

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Division of International-Stacey Corporation

Michigan Avenue & 14th. Street

CONNERSVILLE, INDIANA

NEW YORK—PITTSBURGH—CHICAGO—DETROIT—ST. LOUIS—WICHITA
TULSA—HOUSTON—FORT WORTH—LOS ANGELES—BUENOS AIRES

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1931

Name and address—	Barrels	Value
Pratt, Thomas H., Brenham	704.77	513.58
Philp Brothers, Beaumont	3,215.64	1,819.89
Perkins & Snider lease, Wichita Falls	4,030.06	2,040.75
Poor Boy Oil Co., Rockdale	307.85	166.38
Plymouth Oil Co., Pittsburgh, Pa.	83,223.87	24,929.17
Pemeta Oil Co., Fort Worth	3,588.51	1,826.97
Palm, F. N., and others, Albany	786.51	537.57
Prairie Oil & Gas Co., Independence, Kans.	646,976.49	256,741.77
Producers Supply & Tool Co., Marietta, Ohio	19,054.67	9,367.74
Poole, B. O., Batson	1,827.18	1,027.73
Perkins & Cullum, Wichita Falls	102,538.73	41,741.01
Phillips Petroleum Co., Bartlesville, Okla.	1,720.84	585.95
Phillips Petroleum Co., Bartlesville, Okla.	3,014.12	1,055.67
Phillips Petroleum Co., Bartlesville, Okla.	300,293.50	122,654.46
Phillips Petroleum Co., Bartlesville, Okla.	9,359.54	4,983.58
Phillips Petroleum Co., Bartlesville, Okla.	949.62	501.34
Phillips Petroleum Co., Bartlesville, Okla.	6,425.57	3,319.26
Phillips Petroleum Co., Bartlesville, Okla.	25,594.77	10,276.45
Phillips Petroleum Co., Bartlesville, Okla.	4,976.04	2,327.40
Phillips Petroleum Co., Bartlesville, Okla.	34,101.83	17,760.49
Phillips Petroleum Co., Bartlesville, Okla.	135,806.26	60,386.04
Phillips Petroleum Co., Bartlesville, Oka.	7,581.69	5,275.71
Phillips Petroleum Co., Bartlesville, Okla.	993.01	455.93
Phillips Petroleum Co., Bartlesville, Okla.	125,596.00	41,286.67
Phillips Petroleum Co., Bartlesville, Okla.	31,600.48	8,406.11
Phillips Petroleum Co., Bartlesville, Okla.	25,094.43	8,854.60
Phillips Petroleum Co., Bartlesville, Okla.	16,005.58	4,757.50
Phillips Petroleum Co., Bartlesville, Okla.	96,035.63	31,795.38
Phillips Petroleum Co., Bartlesville, Okla.	66,742.25	48,419.87
Phillips Petroleum Co., Bartlesville, Okla.	266,701.21	84,490.92
Parcomis Oil Co., Amarillo	319.44	35.14
Phillips Petroleum Co., Bartlesville, Okla.	6,276.52	692.04
Q		
Quinn, J. W., and others, Eastland	1,387.90	730.65
R		
Rowe, J. G., Wichita Falls	3,022.80	1,529.47
Rountree & Kemp (successors to Rountree, White & Kemp), Rockdale	468.79	264.63
Red River Oil Co., Tulsa, Okla.	22,641.33	11,442.31
Ryan Consolidated Petroleum Corp., Tulsa, Okla.	52,410.36	18,609.18
Reinhart, M. J., trustee, Oklahoma City, Okla.	347.41	178.32
Riggs, E. R., Graham	73,295.72	28,600.40
Rixsford, S. J., and others, Grand Falls	1,907.29	476.82
Robinson, M. L., Humble	983.03	786.41
Robinson, J. B., Sour Lake	219.51	96.63
Robinson, Arthur D., Dallas	5,126.29	2,054.95
Ramming, W. F., Wichita Falls	76.35	45.82
Ramming, R. W., Wichita Falls	366.56	142.33
Ramming, Staley & Ramming, Wichita Falls	532.57	292.78
Rancho Oil Co., Fort Worth	5,164.53	2,256.56
Reclamation Co., Fort Worth	4,285.86	1,925.75
Refugio Oil Corp., Refugio	25,563.05	9,880.51
Rex Petroleum Corp., Vinton, La.	12,669.11	8,388.03
Rathke Oil Co., Wichita Falls	19,397.02	9,138.16
Regan, J. T., Rising Star	1,338.35	655.74
Rhodes, Highers & Christie, Breckenridge	170.03	72.81
Rhodes & Highers, Breckenridge	4,618.36	2,410.19
Rochmill, Henry, trustee, Fort Worth	1,596.22	708.52
Ranell Oil Co., Oklahoma City, Okla.	3,643.58	1,420.38
Rockwell, J. A., & Co., Warren, Pa.	1,838.89	876.12
Roeser & Pendleton, Inc., Fort Worth	368,738.74	115,412.55
Reiter-Foster Oil Corp., Tulsa, Okla.	5,795.08	2,763.78
Reed, Crenshaw & Glass, Nowata, Okla.	6,487.92	3,044.41
Ramsel, W. T., Oil Co., Rockdale	1,296.11	737.18
Raisin Brothers, Chickasha, Okla.	6,256.59	1,902.12
Roth & Faurot Oil & Gas Co., Independence, Kans.	5,066.18	3,652.37
Robertson, R. R., Wichita Falls	2,043.28	881.08
Randado Oil Corp., Oklahoma City, Okla.	11,727.44	6,623.94
Retsal Drilling Co., Henderson	11,992.82	3,978.99
Root & Rhodes, Eastland	3,078.00	1,556.00
Root, C. M., Eastland	3,208.00	1,381.00
Root & Fehl, Eastland	2,197.00	1,286.00
Root, Rhodes, Gilman & McMurray, Eastland	4,411.00	2,323.00
Republic Production Co., Houston	826,369.61	330,651.61
Ruthada Oil Co. for H. L. Sturm, Ardmore, Okla.	5,126.76	2,877.00
Riner & Omohundro, Wichita Falls	9,766.57	4,849.64
Riner & Bailey, Wichita Falls	19,497.59	9,362.48
Ruthada Oil Co., Oklahoma City, Okla.	16,490.37	6,519.83
Rockdale Junior Oil Co., Rockdale	79.93	50.36
Ruyle Farm & Oil Co., Wichita Falls	6,514.58	3,376.93
Rentex Oil Co., San Antonio	6,365.59	2,784.29
Richardson & Kelsey, Fort Worth	43,964.00	13,936.86
Reeder & Scarborough, Wichita Falls	3,355.14	1,656.21
Rio Brave Oil Co., Houston	394,713.79	253,046.59
Rock Creek Oil Corp., Amarillo	1,622.00	518.02
Robert Oil Corp., Breckenridge	63,534.58	21,894.21
Reno Oil Co., Sistersville, W. Va.	40,642.00	20,639.71
Russell & Wilson, Wichita Falls	4,227.94	1,535.15
Rex-Tex Oil Co., Brownwood	.....	.....
S		
Sinclair Oil & Gas Co., Tulsa, Okla.	982,706.86	320,290.01
Sun Oil Co., Dallas	1,615,260.42	919,038.40
Scarborough, W. E., Burkburnett	1,195.73	487.12
Swanner, John L., Wichita Falls	1,450.26	717.49
Schermerhorn Oil Co., Tulsa, Okla.	151,028.17	44,612.23
Southern Crude Oil Purchasing Co., Fort Worth	28,538.54	17,865.14
Southern Crude Oil Purchasing Co., Fort Worth	1,367,398.02	450,602.82
Saxet Oil Co., Houston	228,513.69	130,940.61
Schermerhorn-Winton Co., Tulsa, Okla.	91,398.03	26,717.42
Sink, Joel, Corsicana	203.00	109.00
Shankle-Newton Oil & Gas Co., Inc., Laredo	52,496.65	23,048.00
Sircovich, A., and Mrs. F. M. Thomas, Houston	462.75	149.68
Stephens Oil Co., Sour Lake (3-31-31)	529.56	365.68
Stephens Oil Co., Sour Lake (6-30-31)	592.90	321.95
Spencer, H. E., trustee, St. Louis, Mo.	672.47	309.31
Sherizer Brothers, Dewey, Okla.	4,305.38	2,172.47
Smith, E. L., Oil Co., Inc., Mexia	103,133.62	39,831.53
Sherman Oil & Gas Co., Sherman	2,108.61	1,118.76
Strelsky, Joe, & Hefley, Rockdale	284.07	160.51
Stroube & Stroube, Corsicana	40,009.62	21,264.57
Sedwick & Webb, Albany	247.05	98.02
Simmons, T. K., Tulsa, Okla.	1,364.29	645.05
Sipe Springs Oil Co., Tulsa, Okla.	4,505.36	2,165.54
Skia-Tex Petroleum Co., Amarillo	10,893.30	4,371.86
Stransylvania Oil & Gas Co., Amarillo	5,681.13	2,211.80
Scott & Britton, Graham	93.09	56.78
Scott & Nance, Graham	2,696.18	1,585.87
Shamrock Oil & Gas Co., Amarillo	105,776.60	30,843.07
Speed, C. D., Corsicana	205.87	110.11
Sessions, I. P., Rockdale	354.44	208.16
Smith Salvage Co., Houston	1,360.00	823.56
Southern Drilling & Production Co., Bay City	7,275.53	4,906.45
South Oil Co., Rosston, Ark.	484.06	235.51
Supreme Oil Co., Orange	1,566.54	1,042.10
Shaw, T. G., Oil Corp., Fort Worth	31,584.96	24,738.04
Scott & Britton, Graham (3-31-31)	131.91	131.28
Scott & Nance, Graham (3-31-31)	2,431.77	2,458.55
Stratton, G., Waco (3-31-31)	21,304.41	9,373.76
Smith, R. E., Houston (3-31-31)	3,354.20	2,362.06
Shoup, O. H., Jr., Colorado Springs, Colo. (3-31-31)	1,475.77	1,373.74

(Continued on next page)

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1931

Name and address—	Barrels	Value
Smith, Levi, Texon	.... ..	.....
Smith, Levi, and Fred Hyer, Texon	.....	.....
S. R. & C. Oil Corp., San Antonio	88,684.69	51,248.89
Smith, Levi, and J. C. Shaffer, Texon	.....	.....
Staley, J. A., Wichita Falls	1,284.93	714.75
Skipper, B. A., Oil Co., Inc., Longview	46,479.92	13,958.46
Swearingen Oil Co., San Antonio	3,195.57	1,478.23
Saratoga Oil Co., Wichita Falls	677.53	346.80
Star Drilling Co., Wichita Falls	14,965.94	7,821.17
Stoops, J. P., Ranger	442.85	187.06
Sedwick Oil Co., Tulsa, Okla.	8,223.72	3,726.15
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C.	3,876.95	1,145.60
Storey-Friebele-Duffey Oil Co. (Cowden lease operation), Winston-Salem, N. C.	19,975.04	5,926.20
Southern Petroleum Exploration, Inc., Sistersville, W. Va.	43,197.45	17,691.48
Smith, Levi, and others, Texon	6,531.16	2,953.60
Saigh, N. A., San Antonio	798.11	370.85
Sequoia Oil Co., Fort Worth	24,591.43	12,390.33
Sequoia Oil Co., Fort Worth	778.32	366.14
Stanolind Oil & Gas Co., Tulsa, Okla.	1,357,180.58	486,467.19
Selby Oil & Gas Co., Tulsa, Okla.	4,537.50	2,299.35
Skelly Oil Co., Tulsa, Okla.	596,234.45	217,691.01
Shattuck, Mrs. Nellie S., Dallas	2,751.03	1,461.08
Smith, Mrs. James L., Amarillo	4,793.34	1,738.52
Summerfield Oil Co., Tulsa, Okla.	145.75	66.93
Schultz & Weaver, Wichita Falls	5,810.32	2,331.98
Southwest Royalty Co., Wichita Falls	4,653.67	2,131.68
Sheffield Oil Co., Houston	4,455.56	2,807.00
Stratton, G., Waco (6-30-31)	15,332.34	5,366.32
Skinner, E. W., Oil Co., Saratoga	4,076.64	2,244.12
Stratton, Edward F., Pioneer	271.98	104.75
Simpson-Fell Oil Co. and others, Ardmore, Okla.	8,079.97	4,353.77
Sinclair Oil & Gas Co., Houston	150,974.82	97,855.36
Stovall, E. C., & Son, Graham	4,960.14	2,587.48
Spencer, H. H., & Co., Burkburnett	318.82	149.93
Shallow Sand Oil Co., Fort Worth	360.85	221.61
Stein, H., Ranger	195.32	108.36
Schlaffke & Blair, Electra	11,733.18	6,247.38
Schlaffke, Edward, Electra	85.11	43.40
Shaw, T. G., Oil Corp., Fort Worth	33,837.75	17,466.20
Staniforth, M., Wichita Falls	3,973.90	1,924.18
Slicker, Homer, Cisco	768.18	349.87
Standard Oil Land & Leasing Co., Electra	85.95	47.27
Shaffer, J. C., and Margaret L. Shaffer, Coleman	760.92	215.34
Stella Oil Co., Beaumont	11,727.62	7,437.32
States Oil Corp., Eastland	42,074.35	20,454.94
Seybert Brothers, Mooringsport, La.	1,824.67	1,002.59
Somerset Crude Oil & Refining Co., Somerset	2,399.21	1,043.98
Somerset Oil Co., San Antonio	969.70	429.51
Syndicate Oil Corp., Rochester, N. Y.	126.44	72.07
Southern Oil & Producing Co., Fort Worth	703.56	104.88
Smith & Ash, Wichita, Kans.	13,946.97	5,793.77
Schoolfield, R. E., Wichita Falls	250.61	111.68
Sand Creek Oil Co., Amarillo	750.00	187.50
Skipper-Bivins Oil Co., Inc., Longview	33,401.91	13,633.49
Shasta Oil Co., Longview	53,363.20	19,070.18
Smith & McDannald, Electra	657.59	285.16
Smith & McDannald, Electra	11,903.05	4,576.68
Shappell Oil Co., Wichita Falls	38,077.20	19,448.09
Schaffner, E. N., and others, Cross Plains	566.54	226.75
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C.	16,326.17	4,818.21
South Texas Petroleum Co., Houston	98,798.36	82,107.71
South Shore Oil Co., Houston	4,402.72	4,402.72
Shell Petroleum Corp., St. Louis, Mo.	5,110,310.67	2,045,208.59
Simms Oil Co., Dallas	964,061.97	322,486.81
Salado Oil Co., San Antonio	1,392.45	657.60
Smith, McIntosh & Thomas (Henry lease), Cameron	464.13	222.26
Smith, McIntosh & Thomas (Coulter lease), Cameron	858.87	453.31
Swearingen, W. R., and others, San Antonio	1,635.18	795.43
Snowden & McSweeney Co., New York City	113,616.71	52,299.31
St. Marys Oil & Gas Co., St. Marys, W. Va.	38,745.06	15,340.26
Spring Creek Oil Co., Amarillo	1,506.64	543.84
Sunray Oil Co., Tulsa, Okla.	161,375.90	51,293.66
Sheldon, C. P., Electra	5,478.51	2,652.99
Stekoll, Harry, Tulsa, Okla.	26,845.87	8,407.23
Suloch Oil Co., Amarillo	4,153.63	1,658.96
Smith, W. B., trustee, Eastland	415.33	198.04
Slick-Seeligson, Inc., Oklahoma City, Okla.	9,372.52	7,480.00
Sandefer-Atkinson-Daniel Oil Corp., Breckenridge	2,539.43	1,484.15
Sprague Oil Co., Ardmore, Okla.	8,500.94	2,630.62
Stock, H. L., Cisco	2,057.79	1,005.50
Shasta Oil Co., Wichita Falls	277.19	143.52
S. & W. Oil Co., Amarillo	5,024.14	1,155.55
Shaw Oil Co., Wichita Falls	217,021.05	89,795.87
Shoup, O. H., Jr., Colorado Springs, Colo.	1,259.53	637.26
Shelicher Oil Co., Beaumont	.....	.....
Smith, Levi, and Fred Hyer, Texon (3-31-31)	.....	.....
Smith, Levi, Texon (3-31-31)	.....	.....
Smith, Levi, and J. C. Shaffer, Texon (3-31-31)	.....	.....
Smith & Bynum, Amarillo	.....	.....
T		
Thomas, J. A., Burkburnett	1,482.87	539.08
Timblin, W. E., Wichita Falls	160.26	86.65
Treat, E. M., Oil & Gas Co., Pittsburgh, Pa.	930.36	465.18
Trevino Oil Corp., Laredo	19,958.68	11,205.32
Teddlie, J. E., Liberty	6,089.00	3,740.46
Taylor-Sibley Syndicate, Dallas	2,033.69	1,067.81
Taconian Oil Co., Wichita Falls	20,709.53	10,896.08
Trimount Petroleum Co., Shreveport, La.	4,487.61	2,231.55
Timms-Robinson Oil Corp., Amarillo	410.53	172.42
Tidwell, R. V., and J. C. Corbett, Graham	662.08	291.87
Tidwell, R. V., trustee, Graham	3,811.07	2,002.80
Tannehill, L. B., Albany	16,741.83	8,167.01
Texas Fidelity Oil Corp., Fort Worth	3,835.04	1,946.90
Trans-Texas Oil Co., Inc., Midland	5,289.00	1,008.48
Traylor-Rutherford Oil Corp., Refugio	40,363.99	23,194.93
Thurber, C. J., Iowa Park	173.70	162.26
Thomas, J. Elmer, Fort Worth	9.16	3.89
Trinity Production Co., Wichita Falls	146.72	66.41
Tegler, F. E., San Antonio	205.37	158.96
Thompson, J. E., Humble	529.00	324.00
Texas Gas Co., Houston	1,195.56	652.98
Tholl Oil Co., Beaumont	2,741.78	556.96
Texon Oil & Land Co. of Texas, Fort Worth	55,113.98	18,207.02
Turman, L. C., W. E. Allen, receiver, Fort Worth	38,595.26	10,237.79
Thomas, G. R., receiver, Greene Production Co., Fort Worth	40,845.04	14,916.51
Texas Petroleum Development Co., Cameron	3,531.24	1,977.65
Texas Petroleum Co., San Antonio	30,665.52	11,423.09
Texas Pacific Coal & Oil Co., Thurber	96,110.09	22,761.95
Texas Pacific Coal & Oil Co., Thurber	259,549.39	99,110.42
Thaxton, Nannie S., executrix, W. H. Thaxton estate, Austin	233.15	123.92
Texas Consolidated Oil Co., San Francisco, Calif.	10,881.98	6,832.85
Towns, M. K., Luling	8,398.06	4,127.22
Travelers Oil Co., Amarillo	4,694.46	1,703.04
Texas Company, The, Houston	2,915,217.77	1,493,634.01
Trans-Coastal Oil Co., Houston	3,018.21	1,746.40
Tarver, A. H., Shreveport, La.	2,735.95	453.74
Texas American Syndicate, Dallas	12,513.20	4,485.53
Timms-Dietsch Oil Corp., Amarillo	2,405.30	921.45
Timms, L. W., Oil Corp., Amarillo	1,823.61	693.01
Tucker Oil Co., Wichita Falls	73,480.17	32,894.35
Timms, Evelyn T., Amarillo	4,198.58	1,731.90

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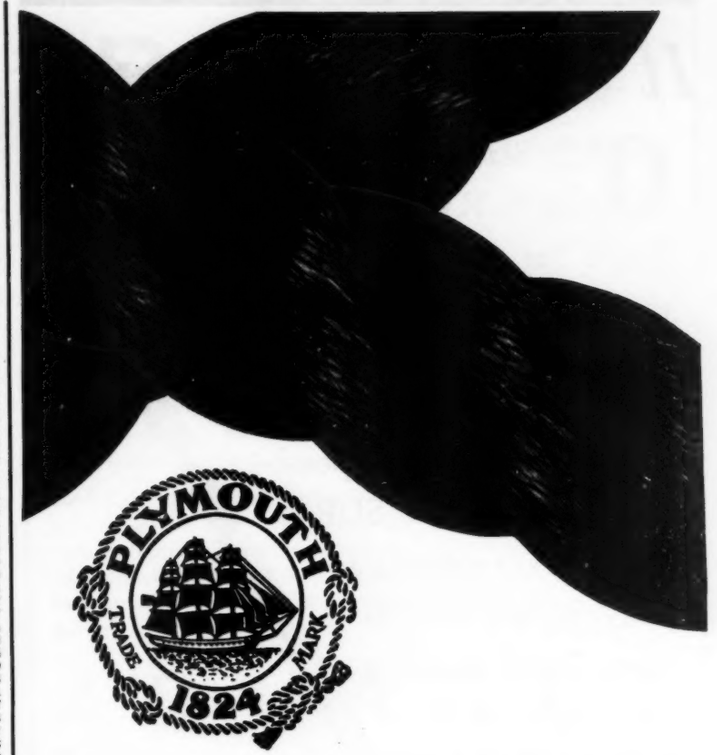

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A section of the film that shows how the SURWEL registers both the direction and degree of the drift.

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Bell Building

Calgary, Alberta, Can.
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SURWEL *Clinograph*

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1931

Name and address—	Barrels	Value
Thomasson, E. M., & Co., Inc., Denver, Colo.	271.18	129.72
Theis Oil Co., Sour Lake	3,156.19	1,617.28
Texas Unity Oil Co., Houston	196,439.79	35,297.61
Tex Cal Oil Co., Brownwood	2,913.12	1,169.75
Teel Production Co., Sayre, Okla.	1,268.00	437.24
Taylor-Link Oil Co., Houston	46,930.00	13,974.99
Triangle Oil & Gas Co., Rockdale	459.93	271.23
Thomason & Fitzsimons, Shreveport, La.	6,521.84	2,286.21
Triangle Petroleum Co., Inc., Fort Worth	600.18	320.41
Trippiehorn, D. R., Pampa	9,353.14	4,468.70
Teatsorth, L., and others, Eastland	1,291.91	662.32
Tilton & Perot, Houston	4,912.80	3,276.14
Turman Oil Co., Tulsa, Okla.	163,909.58	65,832.93
Tidal Oil Co., Tulsa, Okla.	684,375.86	207,644.81
Tidwell, H. L., trustee, Graham	802.35	440.79
Timms-Fogarty Oil Corp., Amarillo	.....	.....
U		
Urban and others, Ranger	740.98	337.99
Union Oil Co. of Nevada, Abilene	1,791.95	842.22
United Production Corp., Houston	1,207,596.44	864,401.53
United Oil Corp., Wichita Falls	6,529.49	2,806.34
United Producers Co., Wichita Falls	27,201.83	13,907.54
Union Production Co., Inc., Rockdale	2,575.38	1,441.56
Underwood Drilling Co. (Underwood Consolidated Ward lease), Wichita Falls	1,472.61	733.01
Underwood Drilling Co. (Perkins lease), Wichita Falls	2,095.97	759.21
Underwood Drilling Co. (Ward "A" lease), Wichita Falls	2,367.90	1,148.20
Underwood Drilling Co. (Underwood & Campbell lease), Wichita Falls	834.24	404.26
Underwood Drilling Co. (Erwin lease), Wichita Falls	725.91	346.54
University lease, Section 24, San Angelo	3,877.21	1,270.28
Unity Oil Co., Beaumont	13,372.00	8,558.00
Upland Oil Co. and others, Tyler	9,599.28	3,748.84
Union Oil & Mining Co., Tulsa, Okla.	4,706.90	1,976.90
V		
Vacuum Oil Co., Houston	34,206.76	16,467.76
Valerio, Inc., San Antonio	360.94	180.28
Van Wormer, F. E., Wichita Falls	773.11	367.22
Ventura Oil Co., Wichita Falls	8,516.56	1,277.49
Virginia Oil Association, Inc., Fort Worth	2,427.95	1,269.96
Vigil Oil & Gas Co., Wichita Falls	7,263.11	2,813.99
Van Cleave Trust, Baltimore, Md.	306.68	139.10
W		
Wilson, W. I., Electra	864.62	458.89
Weldon Oil Co., Saratoga	8,407.32	3,910.20
Wilson & Swaim, Woodson	1,285.00	442.46
Worth Petroleum Co., Fort Worth	4,802.34	2,502.02
Webb, Luther, receiver, Cosden "D" lease, Vernon	5,801.66	2,714.64
Webb, Luther, Vernon	3,411.28	1,460.65
Webb, Luther, receiver, Waggoner "P" lease, Vernon	20,999.03	9,562.17
Weaver-Crim Corp., Longview	35,658.03	14,382.59
Woolf, W. C., Shreveport, La.	15,997.34	3,641.32
Wills Oil Co., Rockdale	855.57	490.54
Wilder, Jack H., Rice	332.65	181.20
Wolfe, A. T., Wichita Falls	5,214.39	2,560.55
Webb Oil Co., Humble	3,218.53	2,030.00
Wilson & Swaim, Woodson (3-31-31)	192.00	176.64
Waco Oil Co., Waco	97.00	38.80
Wilson Oil Co., Houston	10,516.66	6,823.46
Wheelock & Collins, Corsicana	3,794.99	2,030.79
White & Duncan, Wichita Falls	5,095.41	2,572.77
Weinert, H. H., Seguin	32,636.69	16,403.29
Warner Oil Co., Borger	5,539.64	2,190.80
Wise & Porterfield, Tyler	3,066.66	987.25
Westbrook, R. A., production account, Fort Worth	19,188.30	8,609.41
Westbrook Oil Corp., operating account, Fort Worth	76,940.61	34,121.08
Weller, J. G., and others, Cross Plains	1,312.28	714.44
Weaver & Pois, Wichita Falls	1,548.06	798.41
West Texas Petroleum Corp., San Angelo	25,734.50	8,513.76
Woods & Bennett, Humble	6,510.27	4,232.33
Wright, H. L., receiver, J. T. Stover and others-Alamo Drilling & Leasing Co., Mirando City	12,773.61	7,244.76
Werby, J. Z., Longview	.....	40,172.61
Wo-Mac Oil Co., Wichita Falls	4,895.51	2,618.12
Woody, W. C., Wichita Falls	3,049.52	1,495.77
Waggoner Refining Co., Inc., Electra	66,794.53	30,295.95
Wichita Production Co., Wichita Falls	8,130.41	4,069.96
Wilbarger Oil Co., Wichita Falls	1,210.20	492.01
World Oil Co., Inc., Fort Worth	6,767.90	2,262.34
Walton, Blair & Schlaffke, Electra	2,359.92	1,244.11
White, James H., Wichita Falls	3,162.77	1,350.01
Williams, J. H., Somerset	261.47	104.96
Washoma Petroleum Co., Enid, Okla.	7,384.99	2,745.01
Welch, Charles Margaret, Oil Co., Albany	466.00	177.08
Wentz, L. H. (oil division), Ponca City, Okla.	2,118.53	780.52
Weiler, S. J., Wichita Falls	173.20	69.94
Witcher, Annie L., guardian, Wichita Falls	3,048.39	1,607.62
Wood, Benton, Lesh & McCall, Nocona	3,256.75	1,053.09
Wilson Drilling Co., Wichita Falls	9,435.25	4,742.46
West, Mrs. Bessie M., Houston	1,595.28	1,061.67
Witherspoon Oil Co., San Antonio	7,753.80	3,880.48
Witherspoon, C. L., San Antonio	73,333.30	19,621.30
Wise & Jackson, Sapulpa, Okla.	3,498.57	1,457.96
West Production Co., Houston	23,158.25	16,210.24
Weekley Oil Corp., Fort Worth	28,917.10	8,289.29
Why Not Oil Co., Mexia	515.61	299.83
Walpoo Oil Co., Rockdale	917.65	525.47
Woodley Petroleum Co., Shreveport, La.	441,244.03	129,898.53
Webb, J. R., Corsicana	166.94	91.80
Webb, J. R., and J. H. Bryant, Corsicana	103.97	40.94
Waggoner, W. T., estate, Fort Worth	1,394.48	236.29
Woodburn Oil Corp., Dallas	1,586.25	879.69
Warner-Quinlan Co. of Texas, Houston	146,791.84	58,914.82
Worth Oil Co., Wichita Falls	3,719.54	1,460.02
Westexas Oil & Royalty Corp., Fort Worth	24,754.89	9,040.66
Wallace, Dr. Charles William, and wife, Wichita Falls	39,278.15	20,619.32
Westheimer & Daube, Ardmore, Okla.	67,193.22	26,717.46
West, J. H., Fort Worth	6,475.35	3,208.68
Williams, Mrs. Cora B., executrix of John H. Williams estate, Dallas	2,835.55	1,396.16
Wilcox, H. F., Oil & Gas Co., Tulsa, Okla.	196,570.96	73,254.50
Wilson-Broach Co., Beaumont	10,954.62	6,264.26
Whitehill Oil Corp., Tulsa, Okla.	3,156.39	1,672.30
Woodruff Development Co., Inc., Cleveland, Ohio	740.65	414.92
Ward Oil Corp., Ardmore, Okla.	148,750.91	42,202.94
Watts, C. D., Moran	467.32	158.07
Waggoner, E. P., and C. F. Kolp, Tyler	3,103.47	1,448.96
Wilson, Lee, estate, Wichita Falls	3,091.88	1,231.17
Winrod Oil Co., Amarillo	610.22	232.76
Y		
Yount Lee Oil Co., Beaumont	1,449,671.33	892,624.26
Z		
Zenith Oil Producing Co., P. F. Lesh, trustee, Nocona (3-31-31)	10,135.33	5,805.58
Zenith Oil Producing Co., P. F. Lesh, trustee, Nocona	8,030.80	3,475.44

CALIFORNIA OIL FIELD OPERATIONS FOR JULY, 1931

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for July amounted to 16,093,322 bbls., an average of 519,139 bbls. per day. This is a decrease of 2,242 bbls. per day under June production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 1,117,811 bbls. The total stocks at the end of the month were 172,298,503 bbls. The total stock decrease for 1931, up to July 31, was 8,734,638 bbls.

CRUDE PETROLEUM PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

	Barrels	Daily average		
Group No. 1—	per month	July, 1931	June, 1931	July, 1930
Coalinga	261,724	8,443	8,620	9,241
Elk Hills	366,654	11,828	13,629	17,958
Fruitvale	68,582	2,212	2,281	2,443
Kern River	319,702	10,313	10,580	13,934
Kettleman Hills	2,246,192	72,458	58,355	13,467
Lost Hills-Belridge	307,020	9,904	9,850	2,203
McKittrick	61,811	1,994	1,896	3,737
Midway-Sunset	1,556,083	50,193	50,778	63,983
Mount Poso	268,454	8,660	8,457	10,932
Round Mountain	19,430	627	343	3,750
Wheeler Ridge	16,563	534	522	581
Group No. 2—				
Capitan	.....	....	....	15
Elwood	807,329	26,043	29,081	44,501
Rincon	56,561	1,825	1,893	2,482
Santa Barbara	7,865	254	160	....
Santa Maria	89,649	2,892	3,171	3,585
Summerland	4,556	147	164	359
Ventura Avenue	1,225,733	39,540	41,446	49,211
Ventura-Newhall	106,173	3,425	3,758	4,714
Watsonville	1,937	63	62	63
Group No. 3—				
Coyote	326,615	10,536	9,997	9,942
Dominguez	344,387	11,109	11,341	10,306
Fullerton (Brea Olinda)	300,597	9,697	9,729	11,915
Huntington Beach	631,157	20,359	20,562	28,844
Inglewood	428,826	13,833	14,207	17,311
Lawndale	8,891	287	464	266
Long Beach	2,415,948	77,934	79,956	100,137
Los Angeles-Salt Lake	35,750	1,153	1,304	1,505
Montebello	203,801	6,574	6,624	7,296
Newport	.....	....	6	40
Playa Del Rey	756,696	24,410	26,682	8,177
Potrero	36,617	1,181	1,331	1,859
Richfield	197,869	6,383	6,859	8,824
Rosecrans	102,675	3,312	3,490	6,780
Santa Fe Springs	1,963,940	63,353	65,465	112,182
Seal Beach	325,436	10,498	11,217	20,908
Torrance	182,305	5,881	5,751	11,658
Whittier	39,794	1,284	1,350	1,408
Total	16,093,322	519,139	521,381	606,517
June	15,641,436	521,381		
Decrease	*451,886	2,242		

*Increase.

Note—Total June production for Fullerton (Brea Olinda) should have been 291,867 bbls. and for Seal Beach, 336,512 bbls. All other figures in June statement were correct.

SUMMARY OF CALIFORNIA OIL FIELD OPERATIONS FOR JULY, 1931

PACIFIC COAST TERRITORY PETROLEUM STOCKS

	July 31, 1931	June 30, 1931	July stock decreases	July 31, 1930
Heavy crude, heavier than 20° A.P.I., including all grades fuel	103,495,604	104,416,375	920,771	112,250,064
Refinable crude, 20° A.P.I., and lighter	42,167,190	42,521,954	354,764	41,831,069
Finished gasoline, engine distillate and natural gasoline	15,671,410	15,388,862	*282,548	16,443,388
Naphtha distillates	3,063,428	3,036,807	*26,621	2,875,767
All other stocks	7,900,871	8,052,316	151,445	8,855,657
Total all stocks	172,298,503	173,416,314	1,117,811	182,255,945

*Increase.

OIL FIELD DEVELOPMENT

	New rigs up	Active drilling	Completed	Daily initial output	Active producing	Abnd. wells Drillers	Abnd. wells Producers
Group No. 1—							
Buttonwillow gas field	..	1	..	..	..	..	..
Coalinga	..	1	..	..	673	..	..
Elk Hills	..	..	..	..	207	..	..
Fruitvale	1	1	..	..	17	..	..
Kern River	..	..	..	..	944	..	3
Kettleman Hills	2	8	5	55,974	20	..	..
Lost Hills-Belridge	..	6	2	3,943	206	1	..
McKittrick	..	1	..	..	132	2	..
Midway-Sunset	..	..	..	..	1,795	..	..
Mount Poso	1	..	..	..	62	..	..
Round Mountain	1	2	..	..	4	..	..
Wheeler Ridge	..	..	..	..	34	..	..
Group No. 2—							
Capitan	..	2	..	..	..	..	..
Elwood	..	2	1	1,495	43	..	..
Rincon	..	2	1	255	33	..	..
Santa Barbara	..	..	1	298	3	..	..
Santa Maria	..	1	..	..	171	..	1
Summerland	..	..	..	..	32	..	..
Ventura Avenue	1	8	..	..	145	..	..
Ventura-Newhall	1	5	..	..	386	1	..
Watsonville	..	..	..	..	6	..	..
Group No. 3—							
Coyote	..	4	1	190	160	..	..
Dominguez	..	..	..	..	56	..	1
Fullerton	..	1	..	..	349	..	..
Huntington Beach	..	..	..	..	344	..	..
Inglewood	..	..	..	..	206	..	..
Lawndale	..	..	..	..	7	..	..
Long Beach	..	17	3	340	863	1	1
Los Angeles-Salt Lake	..	..	..	..	261	..	..
Montebello	..	..	..	..	173	..	1
Newport	..	1	..	..	..	..	..
Playa Del Rey	2	3	3	900	172	..	..
Potrero	..	2	..	..	9	..	1
Richfield	..	..	..	..	147	..	..
Rosecrans	..	..	..	..	68	..	1
Santa Fe Springs	..	1	1	50	434	..	..
Seal Beach	..	2	..	..	89	..	..
Torrance	1	1	..	..	342	..	..
Whittier	..	..	..	..	172	..	..
Miscellaneous drilling	7	108	..	..	..	5	..
July	17	180	18	63,445	8,815	10	9
June	11	185	32	62,286	8,981	14	7
Decrease	*6	5	14	*1,159	166	4	*2
Average for year 1930	80	434	63	48,710	9,632	21	27
Average for year 1929	100	610	76	100,625	10,550	26	18
Average for year 1928	107	520	59	56,802	10,823	15	25
Average for year 1927	97	404	75	39,992	11,276	23	21
Average for year 1926	95	422	76	32,635	11,288	24	17

*Increase.

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A trouble-proof, mechanically vibrated screen for removing sand and shale from Drilling Mud. Saves its cost many times over by reducing abrasion of pump parts, by reducing quantity of clay or weight material purchased and by elimination of construction costs for mud ditch or slush pit. Literature on request.

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GAS DRIVEN TURBINE PUMP OUTFIT IS INSTALLED AT GASOLINE PLANT

By L. G. E. Bignell
Petroleum Engineering Editor

Recently the Amerada Petroleum Corp.'s gasoline department, installed at the company's No. 17 Kinter natural gasoline plant in the Oklahoma City Field one of the first, if not the first, gas driven turbine pump outfit to be used in this country. This outfit has been operating very satisfactorily ever since with no repairs or shutdown other than that required to pack glands in the pump twice.

This pump is a 4-inch single stage Worthington centrifugal type direct connected to a Terry steam turbine converted to be driven by gas. No change has been made in the turbine and it is operated by residue gas from the plant at a pressure of about 85 pounds per square inch average and uses about 1 cubic foot of gas per gallon of water handled. The actual gas used in 24 hours is about 1,584,000 feet and the water pumped about 1,600,000 gallons. The gas has a gravity of .62 and after passing through the turbine is used as fuel in the plant.

The pump is placed in the cooling water system and takes its water from the basin under the cooling tower and after being raised to a pressure of 85 pounds per square inch it lifts the water to the top of this tower. The water after being cooled passes through the distillation equipment made up of condensers and oil coolers and is heated to a temperature of about 120° F. and then cooled to about 90° F. by passing over the louvers in the tower.

The make up water for the system is produced from a near by water well by gas lift and is stored in a 1,600-bbl. wooden tank.

The turbine is provided with a steam system that can be used if necessary but to date this reserve system has never been put to use for the gas from the plant has been sufficient in quantity and pressure to drive the turbine and pump satisfactorily.

Gas driven turbines are now in use in gasoline plants in the Kettleman Hills Field of California but it is understood that they were not installed until some time after this plant was put into operation in Oklahoma City Field.

Cooling water pumping outfit in use on Amerada Petroleum Corp.'s No. 17 Kinter gasoline plant in Oklahoma City Field where gas is used to drive turbine connected with centrifugal pump.

GULF COAST BULLETIN

HOUSTON, Tex., Aug. 31.—The Texas and South Louisiana Gulf Coast Oil Ssouts Associations have recently published their Bulletin No. 1, a book of 128 pages, giving a complete resume in compact form of the oil and sulphur development of the Gulf Coast. In addition to giving a brief history on all known domes and fields on the coast through the year 1930, the Bulletin contains articles on Gulf Coast geology, geophysics, well surveying, sulphur mining, as well as special complete articles on six fields. It also contains statistics on production, completions and drilling operations together with detailed information on storage and pipe line facilities and refineries.

This is the first publication of these associations but in the future supplementary bulletins will be issued each year covering new developments and containing additional special articles on the various fields and on subjects of interest pertaining to coastal operations. The Bulletin has been compiled and edited by G. C. Francisco, Jr., and Harry M. Sample.

The association, of which N. C. Ginther of the Houston Oil Co. is president, and George E. Robinson of Pure Oil Co., secretary-treasurer, maintains headquarters at 1418 Esperson Building, where the Bulletins are available for a charge of $3.50 covering cost of publication.

TRINIDAD PRODUCTION

WASHINGTON, D. C., Aug. 31.—Cable advices state that the total crude oil production of Trinidad for the month of July was 842,884 bbls., the exports of crude for that month were 236,531 bbls. and the exports of gasoline were 88,120 bbls.

The production of crude oil compares with 821,523 bbls. in January, 744,518 bbls. in February, 844,534 bbls. in March, 798,134 bbls. in April, 788,528 bbls. in May, and 817,761 bbls. in June.

Exports of crude in July compares with 317,109 bbls. in January, 129,429 bbls. in February, 321,459 bbls. in March, 136,814 bbls. in April, 149,627 bbls. in May, and 219,740 bbls. in June.

Exports of gasoline compares with 149,668 bbls. in January, 207,431 bbls. in February, 175,546 bbls. in March, 85,698 bbls. in April, 93,245 bbls. in May, and 208,886 bbls. in June.—C. E. K.

INCREASE OF 2,023,000 BARRELS IN GULF COAST PORT SHIPMENTS

HOUSTON, Tex., Aug. 31.—Gulf Coast terminals served as an outlet for 18,813,909.86 bbls. of crude and refined products during the month of July, representing water shipments of 8 of the 10 major companies operating loading facilities. Approximately 1,000,000 bbls. additional is estimated to have been lifted out of unreported terminals. Shipments during June totaled 16,790,588.31 bbls., meaning an increase of 2,023,321.55 bbls. for July at the reported terminals.

Heavy movements of East Texas crude to Atlantic Seaboard refineries accounted for the greater part of the increase. However, export liftings of crude as well as coastwise and export movements of refined products also gained. The amount of East Texas crude moved is indicated in the fact that terminals handling only crude other than that of East Texas fell off in their loadings.

The gain in shipments of refined products also is attributed to East Texas, which made available large quantities of cheap crude at Coastal refineries, which great refining capacity was utilized to supply finished gasoline and fuels to eastern markets. Shipments by companies and ports during July were:

	Shipments (Bbls.)				
	Crude		Refined products		
Company, terminal—	Coastwise	Export	Coastwise	Export	Total
Atlantic Ref. Co., Atreco ...	582,048.94	.....	23,704.76	.....	605,753.70
Atlantic Ref. Co., Beaumont.	77,946.09	.....	.....	.....	77,946.09
Gulf Ref. Co., Port Arthur .	395,446.61	.....	2,021,429.91	219,072.86	2,635,949.38
Humble O. & R. Co., Baytown	270,331.00	.....	1,286,771.76	1,219,936.01	2,777,038.77
Humble O. & R. Co., Harbor Island	1,950,395.00	.....	.....	.....	1,950,395.00
Humble O. & R., Ingleside ..	134,056.00	.....	.....	.....	134,056.00
Humble O. & R., Neches ...	75,566.00	.....	.....	.....	75,566.00
Humble O. & R., Texas City	374,425.00	.....	.....	.....	374,425.00
Magnolia Pet. Co., Beaumont	†708,034.09	.....	†1,493,166.35	.....	2,201,200.44
Pure Oil Co., Smiths Bluff.	171,651.43	.....	824,892.15	.....	996,543.63
Standard Oil (La.) B'ton R'ge	116,808.00	80,038.00	1,148,086.00	678,951.00	2,023,883.00
Sun Oil Co., Sabine Pass ...	*2,173,764.85	.....	.....	.....	2,173,764.85
The Texas Co., Port Arthur .	793,272.00	225,711.00	1,303,297.00	462,108.00	2,784,388.00
Total July	7,826,745.06	305,749.00	8,101,347.93	2,580,067.87	18,813,909.86
Total June	6,350,260.84	235,013.00	7,782,367.96	2,422,946.51	16,790,588.31
Difference	1,476,484.22	70,736.00	318,979.97	157,121.36	2,023,321.55

*Includes June shipments. †Magnolia does not segregate coastwise and export shipments.

EAST TEXAS FIRE PROTECTION MEETING

Those in attendance at the recent meeting of the East Texas fire protection committee at Longview, Tex., were:

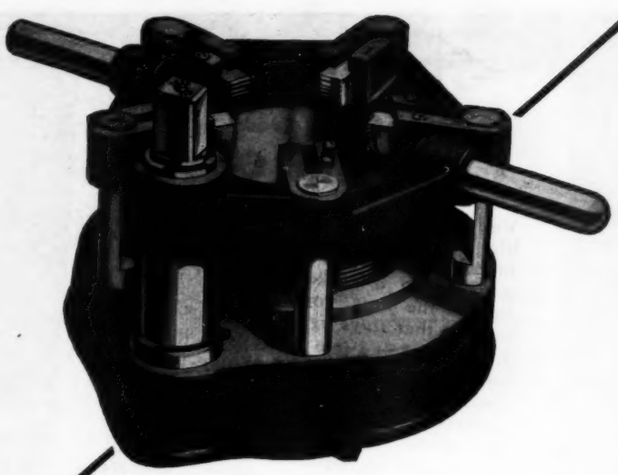
Front row: W. L. Carter, Texas & Pacific Railway; R. W. Taylor, Simms Oil Co., chairman East Texas Chapter American Petroleum Institute; E. Stanley Durward, Shell Petroleum Corp., chairman Southwestern District, American Petroleum Institute Production Division, and D. V. Carter, Magnolia Petroleum Co.

Second row: Joe H. Russell, Gulf Production Co.; Blaine Johnston, Simms Oil Co.; M. L. Brown, Sun Oil Co., chairman East Texas fire protection committee; W. H. Meier, Atlantic Oil Producing Co., vice chairman central committee, American Petroleum Institute Division of Production; Charles Gant, deputy sheriff, Gregg County; E. L. Davenport, Shell Petroleum Corp.; H. C. Renz, Atlantic Oil Producing Co., and C. H. Stout, Arkansas Fuel Oil Co.

Back row: M. C. McDowell, Rio Bravo Oil Co.; G. M. Chaffee, Humble Oil & Refining Co.; D. L. Cross, Simms Oil Co., and C. A. Young, American Petroleum Institute.

ANGLO-PERSIAN PLANS EXPANSION IN GERMANY

WASHINGTON, D. C., Aug. 31.—It is learned here that the Olex Deutsche Benzin und Petroleum G.m.b.H. of Berlin has increased its capital from 24,000,000 reichmarks by 36,000,000 to 60,000,000 reichsmarks. The new stock was taken over entirely by the Anglo-Persian Oil Co., Ltd., London. Private information received here is to the effect that the Anglo-Persian group is planning specific business extensions in Germany. Olex, the German sales company, has been owned to the extent of 75 per cent by the Anglo-Persian company and according to reports received in this country, Olex plans to acquire an interest in German oil fields after the manner of the Royal Dutch-Shell which recently acquired claim rights and is now undertaking borings in North and Central Germany.—C. E. K.



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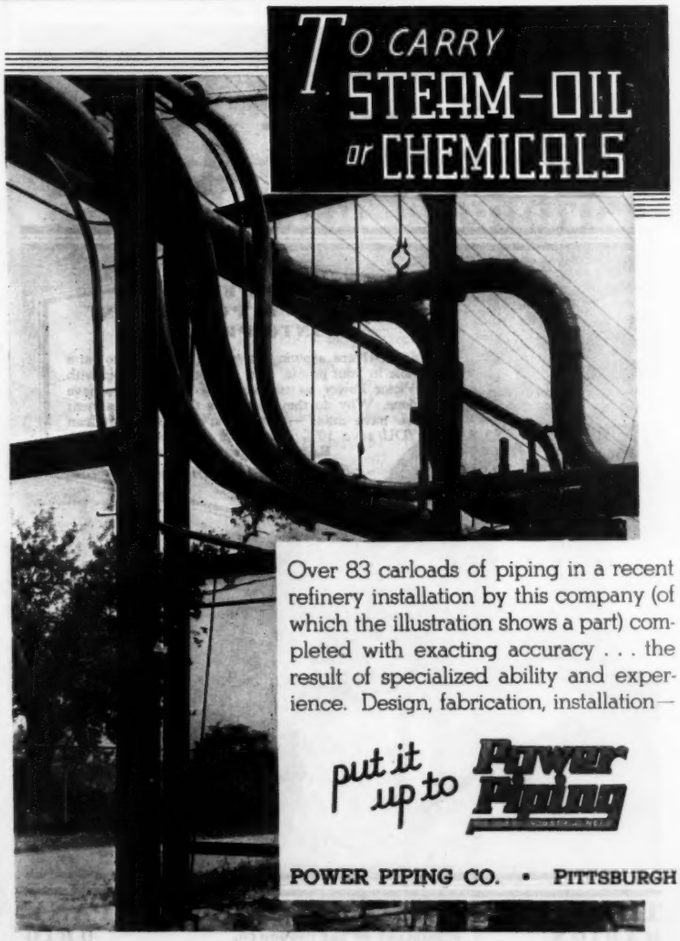

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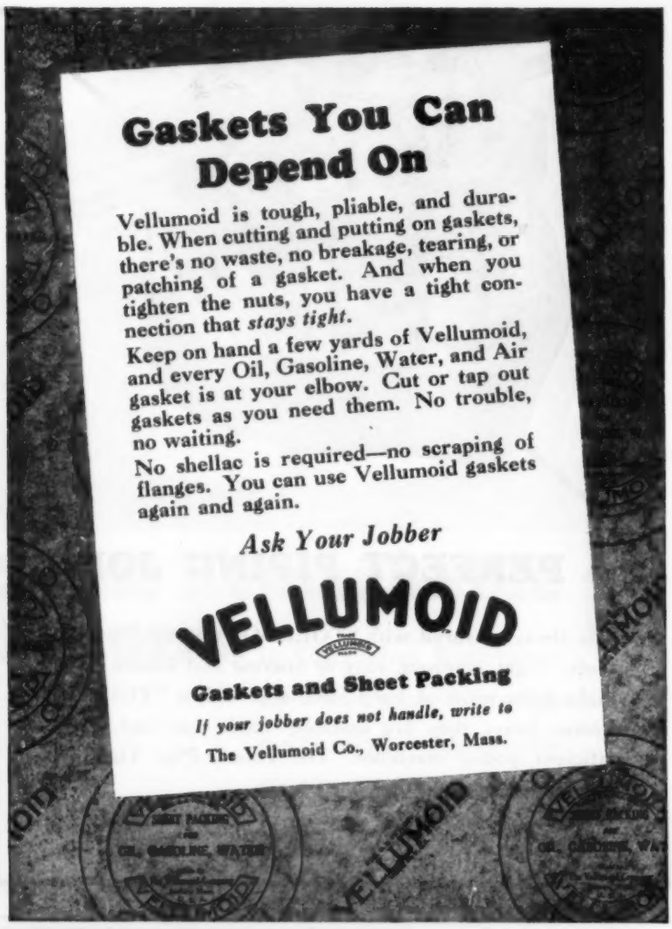
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CENTRAL WEST FIELDS

(Continued from Page 52)

This test is along the edge of the northeastern portion of the Kankakee Valley, and may develop oil by further drilling, as shallow oil of the natural lubricant kind was found in the Kankakee Valley, many years ago, there being close to 1,300 wells drilled along the valley.

Another interesting test in northern Indiana being closely watched is the test of Browning, Stamp and others on the Harry Sonen farm, in Penn Township, St. Joseph County, and about 6 miles northwest of Elkhart.

In southern Indiana, Lambert and others secured a permit to drill on the Doop farm, a mile northeast of the Lee Aders farm wells, in Perry County. Hughes & Rife also secured a permit on the Faulkenburg farm, along Highway 37, in Oil Township, same county.

In Jay County, Wabash Township, H. Pontius abandoned Nos. 1, 2, 3, 4 and 5 J. H. Barr farm, Section 28.

ILLINOIS

Most all of the drilling wells are shut down in the Illinois Field, and no completions were reported from any of the counties where work has been under way, the only change being an abandoned well by the Ohio Oil Co., in No. 3 McCrillis farm, Section 5, Oblong Township, Crawford County, in the older producing regions of the State.

Drilling wells are under way in Clark, Coles, Edgar, Crawford, Boone, Jefferson, Marion, and Macoupin Counties, while the shutdown wells are in St. Clair, Randolph, Monroe, Washington and Madison Counties.

KENTUCKY

Operators in the Owensboro and other fields of western Kentucky are feeling somewhat more cheerful than since the shutdown nearly two years ago, as the 15-cent advance brought the price to 65 cents a barrel, and operators are awaiting the price to reach $1, when they will get busy. Little oil is being pumped in the Owensboro Field, as a result of a shutdown agreement entered into by the large oil operators some time ago, when the price went to 35 cents a barrel, the lowest price in the field's history. The price a month ago advanced to 50 cents.

Considerable oil is moving out of the Horse Cave Field, through the Stoll Refining Co., through its line to its plant in Louisville. The only completion reported from the Horse Cave Field was a good gas well drilled by the Pearson Petroleum Co. on the Sego farm, and the same company is drilling a well on the Rowletts farm.

Hupp & Duff are drilling a second test on the W. R. Jones farm, in the Jones Pool, of Daviess County. Crouse and others are due in on the Less Evans farm, same pool. Brenner and Adams are shut down at 450 feet at No. 1 I. G. Hazelrig farm, in the Cane Run Pool.

MICHIGAN

There is somewhat more activity in the Mount Pleasant-Midland Field of Isabella and Midland Counties. Applications for drilling permits, building of rigs, near completions and the flocking of oil men to the fields pointed to revived and new life in developments. Striking a 2,500-bbl. well in Vernon Township, Isabella County, recently and a big producer east of the proven field in Greendale Township, Midland County, a short time ago combined to open the way to new industry.

At least four wells in scattered sections of the field probably will be brought in within 10 days, two before the close of the coming week. Chief interest was centered to the north where the Meridian Oil & Gas Co.'s No. 1 Russell was being drilled into the pay sand. The Russell well is north of the No. 1 Woods, biggest well in Michigan. Both wells are in Section 22, Vernon Township, Isabella County; a field which previous to the Woods strike had produced only fair wells. Structure indications point to a well, perhaps equal to the Woods well.

No. 1 Marz, Section 1, Union Township, Isabella County, the nearest test to the city of Mount Pleasant, is again being operated, and according to field reports had reached the top of the Dundee formation, and may be brought in any time. This well, originally started by the St. Clair Oil & Gas Co. and later syndicated, has been under way since July 27, 1929, when the drilling permit was issued. Although the well was reported to be running on low formations, the Dundee was said to conform nearly with the Leaton level where several good producers have been struck.

The project of the Talbot Oil Co. in No. 1 Adams farm, Section 10, Greendale Township, Midland County and just west of the No. 1 Struble wildcat, has been drilled through the Traverse and probably will be pushed into the pay within a very short time.

While the major interest at present is centered on oil developments, the Skerritt test in Broomfield Township, Isabella County, largest gas pool in Michigan, claimed no little attention. Probably the well will be brought in within 10 days. The Skerritt is being put down by the Gas Producers, Inc., a recently organized development concern in Mount Pleasant. The location is north and west of the group of gas wells in the Broomfield Pool.

New Drilling Projects

At least six new drilling projects were started the past week and others were expected to follow in a short time, depending on both the price of crude and the results of other completions. Two of the new wells are Vernon Township, Isabella County, locations, three in the new east field in Greendale Township, Midland County, and one is a pure wildcat far to the east, which will be drilled, according to announcement by L. G. Thompson, on the Hewitt farm, Section 18, Lee Township, Midland County, about 2½ miles east of the pool where the Struble well was drilled, and more than 5 miles east of the Chippewa-Greendale Pool.

Mellon-Pollock has spudded in on the Brief farm, a south offset to the No. 1 Woods in Vernon Township, Isabella County. T. K. Buzard moved in an outfit on the Shehan farm, which will be a north offset to the Scott well, Section 26, Vernon Township, same county. At least three new wells are expected to start drilling soon in the vicinity of the No. 1 Struble in Greendale Township, Midland County, in the far east pool. Gordon Oil Co. has applied for a permit to drill No. 3 Skinner, Section 16, Greendale Township, Midland County, and a location north of No. 2 Skinner, a producer.

In Greendale Township, Midland County, the Pure Oil Co. is moving a rig for No. 2 A. Bernard farm, Section 9, about midway between No. 1 Struble and No. 1 Skinner farms, both good producers. The Columbia Oil & Gas Co., formerly the Kalamazoo Improvement Co., has a rig up on the No. 2 Hornick lease, north of the No. 1 Hornick well which opened up the new east field. This company is developing No. 1 McLaughlin, Section 15, same township. No. 1 Woods, in Vernon Township, Isabella County, and No. 1 Struble in Greendale Township, are 18 miles apart. Between the two wells are located the bulk of the producers. Now expansion seems assured farther north and farther east. Many wells will be drilled despite the low price of crude, but should oil prices take an upward turn, the general opinion throughout the field indicates the drilling of a great number of projects.

The Woods Well

Surpassing all previous productive records, the No. 1 Woods oil well in Vernon Township, Isabella County, has averaged but little less than 2,500 bbls. of crude a day since it was drilled in August 10. Although some of the Muskegon Field wells gushed at the rate of 5,000 bbls. a day when struck, no well in Michigan is believed to have equaled the Woods production over a period of several days.

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LEGAL

Notice of sale of Oil and Gas Lease, Department of the Interior, United States Land Office, Salt Lake City, Utah, Aug. 14, 1931. Notice is given that oil and gas lease on the following described lands in the Virgin oil field, Washington County, Utah, is offered for sale under Section 17 of the act of February 25, 1920 (41 Stat. 437), at the royalty rates and in accordance with the drilling requirements fixed in the standard lease form, copy of which may be procured from the Commissioner of the General Land Office: T. 41 S., R. 12 W., Sec. 14, S½ NE¼, N½ NW¼, SE¼ NW¼, 200 acres. The sale will be held at this office at 10:00 a.m. on September 21, 1931. The successful bidder must deposit on the date of the sale with the Register of the Salt Lake City Land Office, certified check on a solvent bank, or cash, for one-fifth of the amount bid by him, and file the showing of qualifications to receive a lease required by Sec. 15 of the oil and gas regulations. Bidders are warned against violation of the provisions of Sec. 59, U. S. Criminal Code, approved March 4, 1909, prohibiting any unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids in the discretion of the Secretary of the Interior. Ell F. Taylor, Register.

Profit by using the *Classified Section* of The Oil and Gas Journal

chaser of the crude from the Woods well, is planning the construction of a pipe line from the Vernon Field to its Greendale tank farm. The line will be about 16 miles long, running across the country from the wells to the tank farm. At present the oil is being piped into tank cars. The Ann Arbor Railroad is only a short distance from the Woods well. According to the present plans the pipe line will be made up of both 3 and 4-inch pipe.

While most wells show a steady decrease in production after the first day, the Woods well, since the time it started to flow, has fallen off but a little from the first check of 2,500 bbls. Had the well flowed wide open the first 24 hours it probably would have made 3,000 bbls.

Natural Gas at Clare

Natural gas has been cut into the Michigan Gas Corp.'s system at Clare, marking the first commercial outlet for natural gas in the Central Michigan fields. At a special election several weeks ago at Clare, a proposed natural gas franchise was rejected but the old gas franchise will do. Both Mount Pleasant and Clare have been serviced with manufactured gas by the company for several years.

Gas will be piped to both Clare and Mount Pleasant for the present through the line between the two cities which has been carrying the artificial product. Later a heavier and larger line will be installed. The work of cutting in the natural gas in Mount Pleasant will be started August 26.

Struble Drilled Deeper

A new derrick has been erected over the Struble well, SW SE, Section 10, Greendale Township, Midland County, which was drilled 2 feet deeper in an attempt to better the flow. Production, however, was not increased. The Struble well is reported to be producing around 700 bbls. a day and is one of the best producers in the far east extension. Walter McClanahan, owner of the well, according to reports, will start a well shortly on a lease east of the Struble farm.

Pure Oil Co. is reported to have a good well in No. 1 A. Bernard farm, Section 9, Greendale Township, Midland County, estimated around 100 bbls.

Muskegon Field

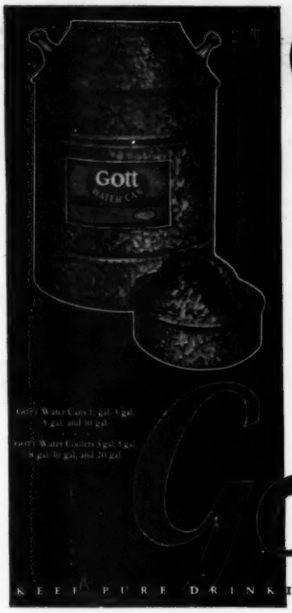
In the Muskegon Field, no new wells are starting. H. and W. Feicke have drilled in No. 1 Feicke farm, SW SW, Section 1, Fruitland Township, Muskegon County, getting a dry hole at 2,700 feet, water in the Monroe formation. W. E. Lang drilled a dry hole on the Frank Jonio farm, Section 30, Fruitport Township, same county, in the Dundee formation at 2,250 feet.

In southeastern Michigan, G. E. LeVeque, drilling for gas on the Riggs farm, Section 34, Van Buren Township, Wayne County, had reached 190 feet, having missed the shallow gas pay found in that vicinity east and south of Bellville. His No. 1 Seger farm, NW NW, Section 34, same township, had a nice gas pay at 113 feet, but by drilling 6 inches deeper ran into fresh water.

Milford Oil & Gas Syndicate, of Milford, Mich., is drilling on the Dr. N. I. Baker farm, a mile east of the town of Milford, in Oakland County, on a leased block of 13,000 acres. This is the first attempt to drill for oil in Oakland County, although numerous shallow gas wells have been found, scattered over the county.

IRAQ CONCESSION

No concession has been granted to the British Oil Development Co. by the Iraq government which is still free and willing to consider offers which may be made to it before September 30 next by any other oil interests in respect to oil, on any part of the area remaining outside the concession already granted to the Iraq Petroleum Co. and the Anglo-Persian Oil Co.—C. B. M.



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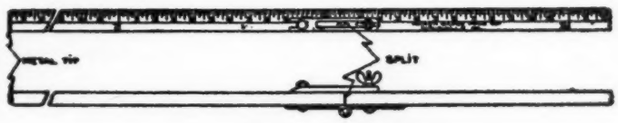

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for June Runs

	Month (bbls.)	Dy. av. (bbls.)
Prairie P. L. Co.*	747,000	24,900
Gulf P. L. Co.	1,748,421	58,281
Texas P. L. Co.	772,241	25,741
Empire P. L. Co.	2,554,219	85,141
Magnolia P. L. Co.	1,449,089	48,303
Cosden P. L. Co.	616,667	20,555
Stanolind P. L. Co.	3,135,000	104,500
Oklahoma P. L. Co.	1,944,819	64,827
Other lines	7,038,000	234,600
Total June	20,005,456	666,848
Total May	20,721,690	668,764
Difference	736,234	1,916

Shipments

Prairie P. L.	2,147,395	71,580
Gulf P. L. Co.	1,536,830	51,228
Texas P. L. Co.	1,228,277	40,942
Empire P. L. Co.	2,901,757	96,725
Magnolia P. L. Co.	1,509,866	50,329
Cosden P. L. Co.	630,682	21,023
Stanolind P. L. Co.	3,466,680	115,556
Oklahoma P. L. Co.	2,345,085	78,169
Other lines	6,660,000	222,000
Total June	22,426,572	747,552
Total May	23,179,595	747,728
Difference	753,023	176

Stocks

Prairie O. & G. Co.	37,680,000
Gypsy Oil Co. and Gulf P. L. Co.	9,130,700
The Texas Company	3,228,595
Empire P. L. Co.	4,974,188
Magnolia Petroleum Co.	6,238,739
Mid-Continent Petroleum Corp.	3,729,851
Stanolind Crude Oil Pur. Co.	18,904,000
Oklahoma P. L. Co.	2,318,945
Carter Oil Co.	8,603,483
Other lines	19,822,000
Total June	114,630,501
Total May	114,870,509
Difference	240,008

*Estimated.

EASTERN PIPE LINE REPORT FOR MONTH OF JULY

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for June and July.

	June,'31	July,'31
Nat. Transit	142,665.44	133,220.85
S. W. Pa. P. L.	74,374.26	71,451.01
Eureka P. L.	303,225.17	289,307.41
Buckeye P. L. (Macksburg)	293,480.77	243,334.42
Buckeye P. L. (Cleveland)	11,410.57	11,493.40
Buckeye P. L. (Lima, etc.)	87,182.23	86,516.97
Indiana P. L.	3,000.67	2,402.03
Cumberland P. L.	156,303.08	164,965.59
N. Y. Transit	28,964.08	25,816.95
Tide Water P. L.	25,859.99	25,578.82
Pure Oil	173,774.98	184,069.94
Bradford Trans.	323,059.46	334,264.05
Total	1,623,300.72	1,572,421.44
Daily average	54,110.02	50,723.24

Petroleum Deliveries

The following table exhibits the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for June and July.

	June,'31	July,'31
Nat. Transit	452,276.53	545,129.48
S. W. Pa. P. L.	446,343.13	444,267.19
Eureka P. L.	400,401.52	389,088.42
Buckeye P. L. (Macksburg)	265,663.53	242,021.51
Buckeye P. L. (Cleveland)	1,709.71	1,950.36
Buckeye P. L. (Lima, etc.)	1,950,031.09	1,906,783.68
Indiana P. L.	998,921.71	975,959.98
Cumberland P. L.	103,631.73	115,573.69
Southern P. L.	11,865.96	71,576.50
N. Y. Transit	169,549.34	173,789.42
Northern P. L.	144,262.80	181,895.41
Tide Water P. L.	472,572.62	403,796.82
Pure Oil	290,068.38	189,026.80
Bradford Tran.	319,547.18	482,852.88
Tuscarora	607,326.68	436,907.19
Total	6,634,671.91	6,560,609.33
Daily average	221,155.73	211,632.56

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of June and July.

	June,'31	July,'31
Nat. Transit	698,669.24	657,463.03
S. W. Pa. P. L.	410,763.21	426,536.86
Eureka P. L.	1,839,688.05	1,741,116.22
Buckeye P. L. (Macksburg)	373,836.66	325,616.77
Buckeye P. L. (Cleveland)	86,846.76	83,005.67
Buckeye P. L. (Lima, etc.)	3,163,646.51	3,110,772.07
Indiana P. L.	508,947.64	527,931.01
Cumberland P. L.	639,041.14	636,001.14
Southern P. L.	248,232.04	214,438.42
N. Y. Transit	156,733.77	101,414.97
Northern P. L.	282,847.01	218,880.21
Tide Water P. L.	836,307.12	1,009,357.89
Tuscarora	13,683.45	12,766.39
Pure Oil	426,437.22	424,712.11
Bradford Trans.	238,679.71	114,837.03
Total	9,903,349.53	9,569,849.78
Decrease	824,890.45	333,499.75

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern Pipe Lines at the close of June and July, showing gross stocks of the above fields:

	June,'31	July,'31
Pennsylvania	3,682,748.26	3,439,601.00
Lima	763,086.16	787,866.84
Kentucky	649,341.95	646,541.50
Mid-Continent	4,391,327.49	4,264,314.47
Illinois		18,123.10
Michigan	416,845.67	413,402.87
Total	9,903,349.53	9,569,849.78

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1928	1929	1930	1931
January	52,904	51,749	75,907	53,939
February	57,002	51,833	79,256	55,163
March	57,485	54,252	76,688	54,331
April	56,812	58,444	84,536	54,914
May	62,067	59,902	70,546	53,344
June	58,230	58,833	75,430	54,110
July	57,144	66,087	68,921	50,723
August	57,745	66,087	54,291	.....
September	53,487	67,315	56,595	.....
October	58,100	76,093	58,179	.....
November	53,865	74,831	52,332	.....
December	52,025	74,561	53,999	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1928	1929	1930	1931
January	146,465	165,721	217,623	175,369
February	167,368	159,387	224,355	183,494
March	158,883	161,474	228,846	189,508
April	172,935	169,737	241,845	191,450
May	180,559	184,281	248,383	199,247
June	188,024	185,404	234,402	221,155
July	189,470	194,762	207,094	211,632
August	192,853	194,946	205,506	.....
September	194,138	201,214	193,999	.....
October	176,000	191,367	157,675	.....
November	176,898	202,743	146,638	.....
December	173,572	186,257	143,001	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1929	1930	1931
January	7,596,564	12,220,045	11,831,002
February	8,737,835	12,991,561	11,506,489
March	9,002,058	13,247,217	11,012,162
April	8,978,172	13,233,961	11,044,487
May	8,903,560	12,052,953	10,728,239
June	8,921,275	13,396,855	9,903,349
July	9,211,565	13,268,562	9,569,849
August	9,440,642	13,047,051	.....
September	9,443,067	12,812,018	.....
October	9,441,101	12,437,555	.....
November	9,868,538	11,851,380	.....
December	11,253,953	11,751,952	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, August 1	575,856.71
Runs from wells	494,430.56
Regular deliveries	283,141.98
Other deliveries	247,457.52

The amount of Illinois oil run by the Tide Water Pipe Line Co. in July was 25,578.82 bbls. Deliveries were 6,077.07 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1931—	Runs	Deliveries
July	520,009.38	289,219.05
1930—		
January	543,387.95	498,293.93
February	548,416.33	414,536.59
March	631,944.43	469,119.53
April	530,074.22	509,304.60
May	605,147.37	504,060.84
June	572,662.57	468,658.81
July	604,529.54	388,454.47
August	594,642.12	375,742.43
September	457,001.11	371,691.63
October	475,442.12	320,688.73
November	422,794.68	355,403.12
December	556,418.78	363,719.55
1931—		
January	468,429.04	669,573.19
February	429,284.54	461,262.85
March	424,638.23	356,663.26
April	421,814.98	282,532.65
May	433,231.40	322,513.95
June	510,805.78	320,258.13

Tide Water Pipe Co., Ltd., also delivered in July 92,374.01 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans, Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
July	17,355	7,774	43,419	23,839	6,452	98,839	.....	.....	.....	.....	4,645	103,484
August	7,418	8,742	38,968	21,226	5,258	81,618	.....	.....	.....	.....	97	81,710
September	6,300	6,400	25,600	13,400	9,567	61,267	.....	.....	.....	.....	2,433	63,700
October	2,516	3,065	27,258	16,419	4,903	54,161	.....	.....	.....	.....	5,355	59,516
November	8,267	6,233	33,800	17,733	4,600	70,733	.....	.....	.....	.....	4,800	75,533
December	5,516	4,322	30,645	9,673	3,580	53,742	.....	.....	.....	.....	4,645	58,387
January	8,287	6,613	21,968	14,678	11,096	62,742	.....	.....	.....	.....	6,129	68,871
February	5,787	2,712	29,142	4,000	5,750	47,393	.....	.....	.....	.....	3,750	51,143
March	10,032	1,611	21,388	7,324	8,774	49,129	.....	.....	.....	.....	6,355	55,484
April	5,133	.....	19,200	16,500	10,067	50,900	.....	.....	.....	.....	4,000	54,900
May	4,452	3,064	19,903	11,226	6,258	44,903	.....	.....	.....	.....	2,355	47,258
June	4,267	.....	25,100	6,333	3,500	39,200	.....	.....	.....	.....	.....	39,200

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans, Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
July	42,097	9,548	154,968	37,925	36,032	280,500	5,678	9,161	2,097	2,387	19,322	299,903
August	39,032	4,484	146,613	33,355	25,097	247,581	8,419	9,323	5,548	3,000	26,290	274,871
September	38,867	8,533	150,933	34,500	25,567	258,400	6,433	12,234	.....	3,800	22,467	280,867
October	19,839	11,742	146,194	35,355	26,967	240,097	6,065	7,067	2,774	2,545	18,451	258,548
November	39,633	35,900	124,633	36,467	24,667	261,300	2,467	7,366	.....	1,767	11,600	272,900
December	21,419	14,033	122,774	32,839	33,774	224,839	6,290	10,613	2,097	290	19,290	244,129
January	17,613	13,519	154,225	32,902	30,612	248,871	2,032	11,677	2,097	3,097	18,903	267,774
February	31,321	16,929	127,786	31,714	26,857	234,607	4,536	11,571	.....	536	16,643	251,250
March	27,645	18,935	141,169	26,290	21,129	235,161	4,065	2,580	.....	1,968	8,613	246,774
April	25,000	10,533	105,000	29,767	35,533	215,833	2,733	3,400	.....	.....	6,133	221,966
May	30,129	8,774	107,000	25,452	26,710	198,065	.....	2,000	.....	.....	2,000	200,065
June	30,067	10,833	111,767	27,000	20,833	200,500	3,300	5,500	2,167	1,333	12,300	212,800

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

1930—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
July:	Month	18,802,024	18,032,514	25,973,521	3,541,409	1,713,680	2,079,769	3,275,894	3,830,000	77,248,811
	Daily average	606,517	581,694	837,856	114,239	55,280	67,089	105,674	123,548	2,491,897
August:	Month	18,770,466	17,162,034	25,069,598	3,491,530	1,700,102	2,151,120	3,193,341	3,417,000	74,955,191
	Daily average	605,499	553,614	808,696	112,630	54,842	69,391	103,011	110,226	2,417,909
September:	Month	17,964,842	16,509,120	23,111,822	3,495,510	1,583,230	2,008,060	3,239,010	3,396,000	71,237,108
	Daily average	599,477	550,304	770,394	113,517	52,776	66,935	107,967	113,200	2,374,570
October:	Month	18,244,053	16,032,523	23,636,553	3,517,913	1,636,552	2,142,385	3,225,550	3,627,000	72,707,029
	Daily average	588,518	536,533	762,147	115,223	52,792	69,125	104,050	117,000	2,345,388
November:	Month	18,109,459	14,941,770	22,035,222	3,459,330	1,557,870	2,136,948	2,957,100	3,222,000	68,419,699
	Daily average	603,648	498,059	734,507	115,311	51,929	71,231	98,570	107,400	2,280,656
December:	Month	17,786,728	15,057,103	21,810,359	3,432,661	1,590,951	2,157,534	3,118,663	3,328,000	68,281,999
	Daily average	573,765	485,713	703,560	110,731	51,321	69,598	100,602	107,355	2,202,645
1931—										
January:	Month	16,485,738	14,850,953	20,019,212	3,432,475	1,574,955	2,135,037	2,966,142	3,374,000	64,838,512
	Daily average	531,798	479,063	645,781	110,725	50,805	68,872	95,682	108,839	2,091,565
February:	Month	14,930,932	13,531,980	18,957,571	3,241,016	1,402,492	1,981,616	2,747,024	3,129,000	60,021,631
	Daily average	533,248	483,285	677,057	119,322	50,089	70,772	98,108	111,750	2,143,629
March:	Month	16,364,842	15,627,687	22,453,519	3,498,598	1,469,245	2,061,576	3,398,035	3,374,000	68,747,602
	Daily average	527,898	504,377	724,310	112,858	47,395	66,502	95,485	108,839	2,217,665
April:	Month	15,303,541	16,315,990	26,887,717	3,281,880	1,412,220	2,008,021	2,901,870	3,273,000	72,384,239
	Daily average	526,785	559,255	896,257	109,396	47,074	66,934	96,729	109,100	2,412,808
May:	Month	16,448,960	17,333,867	28,708,684	3,341,366	1,446,274	2,232,568	3,098,419	3,190,000	75,800,138
	Daily average	530,612	559,157	926,086	107,786	46,654	72,018	99,949	102,900	2,445,166
June:	Month	15,641,436	16,678,200	29,139,832	3,175,440	1,344,450	1,850,511	2,986,200	3,166,000	73,982,070
	Daily average	521,381	555,940	971,327	105,848	44,815	61,684	99,540	105,533	2,466,069
Total 12 months		205,372,485	194,173,741	287,792,711	40,973,128	18,432,071	24,945,645	36,607,248	40,326,000	848,624,929